County of Los Angeles
CHIEF EXECUTIVE OFFICE
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, California 90012
(213) 974-1101
http://ceo.lacounty.gov

WILLIAM T FUJIOKA
Chief Executive Officer

November 17, 2009

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

DEPARTMENT OF PUBLIC WORKS: FIRE DEPARTMENT
NEW FIRE STATION 150
CITY OF SANTA CLARITA
ENVIRONMENTAL RECOMMENDATIONS
ADOPT ADDENDUM TO ENVIRONMENTAL IMPACT REPORT
SPECS. 6909; CAPITAL PROJECT NO. 88936
(FIFTH DISTRICT) (3 VOTES)

SUBJECT

Adoption of the Addendum to the Environmental Impact Report (EIR) to facilitate the property transfer to the Consolidated Fire Protection District of Los Angeles County for the New Fire Station 150 project.

JOINT RECOMMENDATION WITH THE FIRE CHIEF THAT YOUR BOARD, ACTING AS THE GOVERNING BODY OF THE CONSOLIDATED FIRE PROTECTION DISTRICT OF LOS ANGELES COUNTY:

1. Certify that the Addendum prepared by the Consolidated Fire Protection District of Los Angeles County has been completed in compliance with the California Environmental Quality Act and reflects the independent judgment and analysis of the County. Acting as responsible agency for the Golden Valley Ranch project, consider the final Environmental Impact Report prepared and certified by the City of Santa Clarita, as lead agency, for the project and consider the Addendum to the Environmental Impact Report, prepared by the Consolidated Fire Protection District of Los Angeles County; certify that your Board has independently considered and reached its own conclusions regarding the environmental effects of the project as shown in the Addendum and the final Environmental Impact

Report; adopt the Mitigation Monitoring and Reporting Program applicable to the new Fire Station 150, finding that the Mitigation Monitoring and Reporting Program is adequately designed to ensure compliance with the mitigation measures during project implementation; find that there are no further feasible alternatives or feasible mitigation measures within your Board's power that would substantially lessen or avoid any significant effect the project would have on the environment; and determine that the significant adverse effects of the project have either been reduced to an acceptable level or are outweighed by the specific considerations of the project, as outlined in the Environmental Findings of Fact and Statement of Overriding Considerations, which Findings and Statement are adopted and incorporated herein by reference.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will allow the adoption of the Mitigation Monitoring and Reporting Program and the Environmental Findings of Fact and Statement of Overriding Considerations and will certify the Addendum to the City of Santa Clarita's final EIR and allow the Consolidated Fire Protection District of Los Angeles County (Fire District) to accept the developer's transfer of the property required for construction of the new Fire Station 150. The Fire District will enter into a Developer Fee Mitigation Agreement, and the Chief Executive Office will accept the property transfer on behalf of the Fire District.

The proposed project, located at 19190 Golden Valley Road, Santa Clarita, California 91387, is a new 19,667-square-foot Battalion Headquarters fire station that consists of a three-bay apparatus room, a main office, a training room, a day room, a Battalion Chief's office with dormitory, Assistant Fire Chief's office with dormitory, and dormitory quarters for ten shift personnel. The architectural plan conforms to the Fire District's New Station Prototype design/construction specifications adopted in 1999 and complies with the Americans with Disabilities Act and State Health and Safety requirements and your Board's Countywide Energy and Environmental Policy. At the completion of the project, Fire Station 150 will provide improved fire protection, emergency medical, and life safety services to the expanding community of Santa Clarita.

The Addendum addresses the new Fire Station 150's potential environmental impacts. All of the impacts associated with Fire Station 150 are within the scope of impacts addressed in the certified EIR and there are no new significant impacts or substantial increases in previously identified significant impacts. No new mitigation measures beyond the applicable mitigation measures in the certified EIR would be necessary for Fire Station 150.

In accordance with the Environmental Document Reporting Procedures and Guidelines adopted by your Board on November 17, 1987, an Addendum to the certified EIR was prepared and must be approved by your Board for acquisition of the property for Fire Station 150.

Green Building/Sustainable Design Program

The project supports your Board's Sustainable Design Program by implementing design features that, when successfully installed, will allow for application of a U.S. Green Building Council's (Leadership in Energy and Environmental Design) Silver certification. The project will use water-efficient fixtures and will implement the use of drought tolerant landscaping to reduce the amount of potable water consumed.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1) and Children, Family and Adult Well-Being (Goal 2) as it is an investment in public infrastructure that will benefit the Santa Clarita community by improving the Fire District's ability to respond to local emergencies.

FISCAL IMPACT/FINANCING

On May 13, 2008, your Board approved a $19,565,000 project budget for construction of the new Fire Station 150. The total project cost estimate included the preparation of plans and specifications, plan check fees, construction, bid contingency, demolition of existing temporary fire station, change orders, consultant services, miscellaneous expenditures, Civic Art allocation, and County services. The project is funded by developer fees and commercial paper proceeds. There is no impact to net County cost.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

Upon your Board's adoption of the Addendum to the EIR, the Chief Executive Office will accept the transfer of property from the developer of the Golden Valley Ranch project.

ENVIRONMENTAL DOCUMENTATION

The City of Santa Clarita prepared an EIR for the Golden Valley Ranch project, which was made available to the public for review and comments. The City of Santa Clarita held a public hearing on the proposed project and determined that the total development of the Golden Valley Ranch project will have a significant effect on the environment and a Mitigation Monitoring and Reporting Program and a Statement of

Overriding Considerations were adopted by the City of Santa Clarita on January 24, 2002. One of the mitigation measures for the development was the construction of a fire station. A notice of determination was posted by the Registrar-Recorder/County Clerk in accordance with Section 21152 (a) of the Public Resources Code on January 29, 2002.

The Fire District determined that some changes or additions to the EIR are necessary but none of the conditions described in Section 15162 of the State California Environmental Quality Act Guidelines calling for the preparation of a subsequent EIR have occurred and prepared an Addendum to the previously certified EIR to further evaluate the impacts resulting from the construction and operation of Fire Station 150. The Addendum to the EIR demonstrates that environmental impacts resulting from the construction and operation of Fire Station 150 would not result in any new significant impacts beyond that previously analyzed in the EIR nor would it result in a substantial increase in the severity of significant impacts previously identified in the EIR. The EIR did conclude, however, that unavoidable significant impacts, including air quality, biology, and aesthetics/light and glare, were present within the overall Golden Valley Ranch development project. Changes or alterations have been incorporated into that project that will lessen, but will not avoid or reduce, these significant environmental effects below a level of significance. No new mitigation measures beyond the applicable mitigation measures in the certified EIR would be necessary for the construction and operation of Fire Station 150.

In order to allow the project to proceed and to enhance fire protection services in the City of Santa Clarita area, it is recommended that your Board adopt a Statement of Overriding Consideration, based on the benefit to the public's safety outweighing the adverse air quality, biology, and aesthetics/light and glare.

Upon your Board's approval of the Addendum, the Department of Public Works will file a Notice of Determination in accordance with the requirements of Section 21152(a) of the California Public Resources Code.

CONTRACTING PROCESS

The Fire Station 150 construction documents are currently under preparation. Once the plans and specifications are completed, we will be returning to your Board requesting to adopt the plans and specifications and to advertise the project for bids.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

There will be no negative impact on current County services or projects during the performance of the recommended actions.

CONCLUSION

Please return one adopted copy of this letter to the Chief Executive Office, Capital Projects Division; Arts Commission; and the Department of Public Works, Project Management Division II.

Respectfully submitted,

for WILLIAM T FUJIOKA
Chief Executive Officer

P. MICHAEL FREEMAN
Fire Chief

WTF:GF:PMF
DJT:SW:zu

Attachments

c: Arts Commission
Auditor-Controller
County Counsel
Department of Public Social Services (GAIN/GROW Program)
Department of Public Works
Fire Department
Office of Affirmative Action Compliance

July 13, 2009

Gregg BeGell
Project Management Division II
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
900 S. Fremont Avenue
Alhambra, California 91803

Re: ADDENDUM TO THE GOLDEN VALLEY RANCH FINAL ENVIRONMENTAL IMPACT REPORT TO ADDRESS DEVELOPMENT OF FIRE STATION NUMBER 150 (MASTER CASE 97-212) IN THE CITY OF SANTA CLARITA, CALIFORNIA

Dear Mr. BeGell:

In accordance with the California Environmental Quality Act (CEQA), an Addendum to the Final Environmental Impact Report (EIR) for the Golden Valley Ranch (March) 2001 has been prepared to address impacts associated with the development of the proposed Fire Station 150. As indicated in the attached Addendum, the addition of Fire Station 150 to the greater Golden Valley Ranch Project would not result in the identification of a new significant impact beyond what was previously analyzed in the certified Golden Valley Ranch Final EIR, nor would it result in a substantial increase to the severity of significant effects identified in the Final EIR. Based on these conclusions, an Addendum to the certified Golden Valley Ranch Final EIR is the appropriate CEQA environmental clearance for the Fire Station 150 Project.

Sincerely,
PCR SERVICES CORPORATION

Mike Harden
Principal Planner

Enclosure: Addendum to the certified Golden Valley Ranch Final EIR

One Venture, Suite 150, Irvine, California 92618 INTERNET www.pcrnet.com TEL 949.753.7001 FAX 949.753.7002

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ADDENDUM TO THE GOLDEN VALLEY RANCH FINAL ENVIRONMENTAL IMPACT REPORT (MARCH 2001)

The Los Angeles County Fire Department, (the "Applicant" or "LACFCD"), proposes the development of Fire Station 150 within the Golden Valley Ranch Project. The environmental impacts associated with Golden Valley Ranch Project were addressed in Final Environmental Impact Report (SCH No. 97121037) for the Golden Valley Ranch certified on July 5, 2001, hereafter referred to as the "certified EIR." This Addendum demonstrates that the addition of Fire Station 150 to the Golden Valley Ranch Project, referred to hereafter as the "Modified Project," would result in environmental impacts that would be within the envelope of impacts that were addressed in the EIR, thus, further environmental documentation beyond this Addendum to the EIR is not necessary. It is also important to note that the addition of a fire station was contemplated as a mitigation measure in the certified EIR.

1. INTRODUCTION/BACKGROUND

PacSun, LLC, proposed the development of the Golden Valley Ranch Project, a 1,259 acre community proposed on land to be annexed to the City of Santa Clarita. The community is located east of State Route 14 off of Golden Valley Road. The project required approval of a Conditional Use Permit, General Plan Amendment, Hillside Review, Oak Tree Permit, prezoning, and a Vesting Tentative Tract Map. Approvals were also required from the Los Angeles County Local Agency Formation Commission, the California Department of Transportation, US Army Corps of Engineers, and the California Department of Fish and Game.

As part of the approval process for the Golden Valley Ranch Project, an EIR was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA). The Draft EIR for the Golden Valley Ranch Project was circulated for a 45-day review period from August 9, 1999 to September 22, 1999. However, additional alternatives beyond those provided by the Draft EIR were proposed subsequent to the Draft EIR. As such, a Revised Draft EIR was circulated for another 45-day review period from November 27, 2000 to January 10, 2001. Impacts regarding Geology and Soils, Cultural Resources, Hazards, Hydrology/Water Quality, Land Use, Noise, Public Services, Traffic, and Utilities were reduced to a less than significant level with appropriate mitigation measures. In addition, the Draft EIR identified several significant unavoidable impacts relating to Aesthetics, Air Quality, and Biological Resources. On July 5, 2001, certification of a Final EIR and adoption of a Statement of Overriding Considerations was recommended by the Planning Commission following the circulation of the Revised Draft EIR. On January 24, 2002, the City of Santa Clarita City

Council certified the Golden Valley Ranch Final EIR and adopted the Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program.

As part of the analysis within the certified EIR, impacts related to fire protection services were determined to be potentially significant. The proposed mitigation [Mitigation Measure PS-1(a)] required that the project include a 1.5-acre fire station site in the Cluster 1 area in a location suitable to the County of Los Angeles Fire Department. The proposed Fire Station 150 would serve to implement the prescribed mitigation in the certified EIR.

2. PURPOSE OF ADDENDUM AND CEQA REQUIREMENTS

This document is an Addendum to the certified Final EIR for the Golden Valley Ranch Project that addresses the addition of Fire Station 150 as contemplated by mitigation measure PS-1(a). The certified EIR included all statutory sections required by CEQA, comments received on the Draft EIR, responses to comments on the Draft EIR, and supporting technical appendices. Section 15164 of the CEQA Guidelines provides that an addendum to a previously certified EIR can be prepared if changes or additions are necessary and none of the conditions in Section 15162 of the Guidelines requiring preparation of a Subsequent EIR have occurred.

Section 15162 of the CEQA Guidelines requires preparation of a Subsequent EIR, instead of an Addendum to an EIR, where an EIR has already been prepared under the following circumstances:

1. *Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*

2. *Substantial changes occur with respect to the circumstances under which the project is undertaken, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*

3. *New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete shows any of the following:*

    a. *The project will have one or more significant effects not discussed in the previous EIR or negative declaration,*

    b. *Significant effects previously examined will be substantially more severe than shown in the previous EIR,*

c. *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative, or*

d. *Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

Based on the above, the purpose of this Addendum is to evaluate the environmental consequences of the proposed modifications in order to determine whether any additional significant environmental impacts which were not identified in the certified EIR would occur or whether any previously identified significant impacts would be substantially more severe as a result of inclusion of Fire Station 150 into the Golden Valley Ranch Project. As demonstrated by the analyses herein, the proposed inclusion of Fire Station 150 into the Golden Valley Ranch Project would not meet these requirements for preparation of a Subsequent EIR pursuant to Section 15162 of the CEQA Guidelines. Rather, all of the impacts associated with the Modified Project with Fire Station 150 would be within the envelope of impacts addressed in the certified EIR and a new significant impact or substantial increase in an already identified significant impact would not occur. Based on this determination, an Addendum is the appropriate form of CEQA documentation to address the Modified Project with Fire Station 150.

3. PROJECT DESCRIPTION

a. Description of Project Addressed in EIR

The Golden Valley Ranch Project includes the development of a 1,259-acre site consisting of 847 single-family homes, approximately 89.8-acres of commercial uses, a 10.6-acre elementary school, and a 10-acre park. Residential uses would be divided among three separate development clusters and would generally be located in a natural "bowl" to minimize impacts on ridgelines and biological resources along the surrounding hillsides. The three clusters of development would be located in the western, central, and eastern portions of the site. Cluster 1 would include 529 single-family homes on lots ranging from 4,000 to 7,000 square feet. Cluster 2 would include 149 single-family homes with lots ranging from 6,000 to 6,500 square feet. Cluster 3 would feature 169 single-family homes on approximately 7,000 square foot lots, the elementary school, and the 10-acre park.

The commercial uses would be developed on two commercial pads estimated to be 610,930 square feet in the vicinity of the Antelope Valley Freeway (SR-14) and the elementary school would be developed at the intersection of Golden Valley Road and Via Princessa. More

than 800-acres of open space would be provided as part of the project. General access to the project site would be provided via Placerita Canyon Road, Golden Valley Road, Via Princessa, and Holt Canyon Road. Furthermore, the project would include new infrastructure, such as the construction of four water tanks, water and sewage lines, natural gas and electrical extensions, and storm drains.

b. Project Location

Golden Valley Ranch is located within the Santa Clarita Valley and is bordered by Placerita Canyon State Park to the south, State Route 14 to the northwest, and the Angeles National Forest to the east and southeast. Fire Station 150 is proposed to be located at 19190 Golden Valley Road within Cluster 1 of the Golden Valley Ranch. Figure 1 below shows the proposed Fire Station 150 site in a local context. Upon completion of the Golden Valley Ranch Project, the adjacent uses to the Fire Station 150 would include commercial uses to the north across Golden Valley Road. Open areas disturbed by grading would be located to the immediate east and west on the south side of Golden Valley Road. Immediately south of the Fire Station 150 site would also include graded open area followed by a northerly faced graded open area hillside. Beyond the hillside to the south is the Walt Disney Company's Golden Oak Ranch.

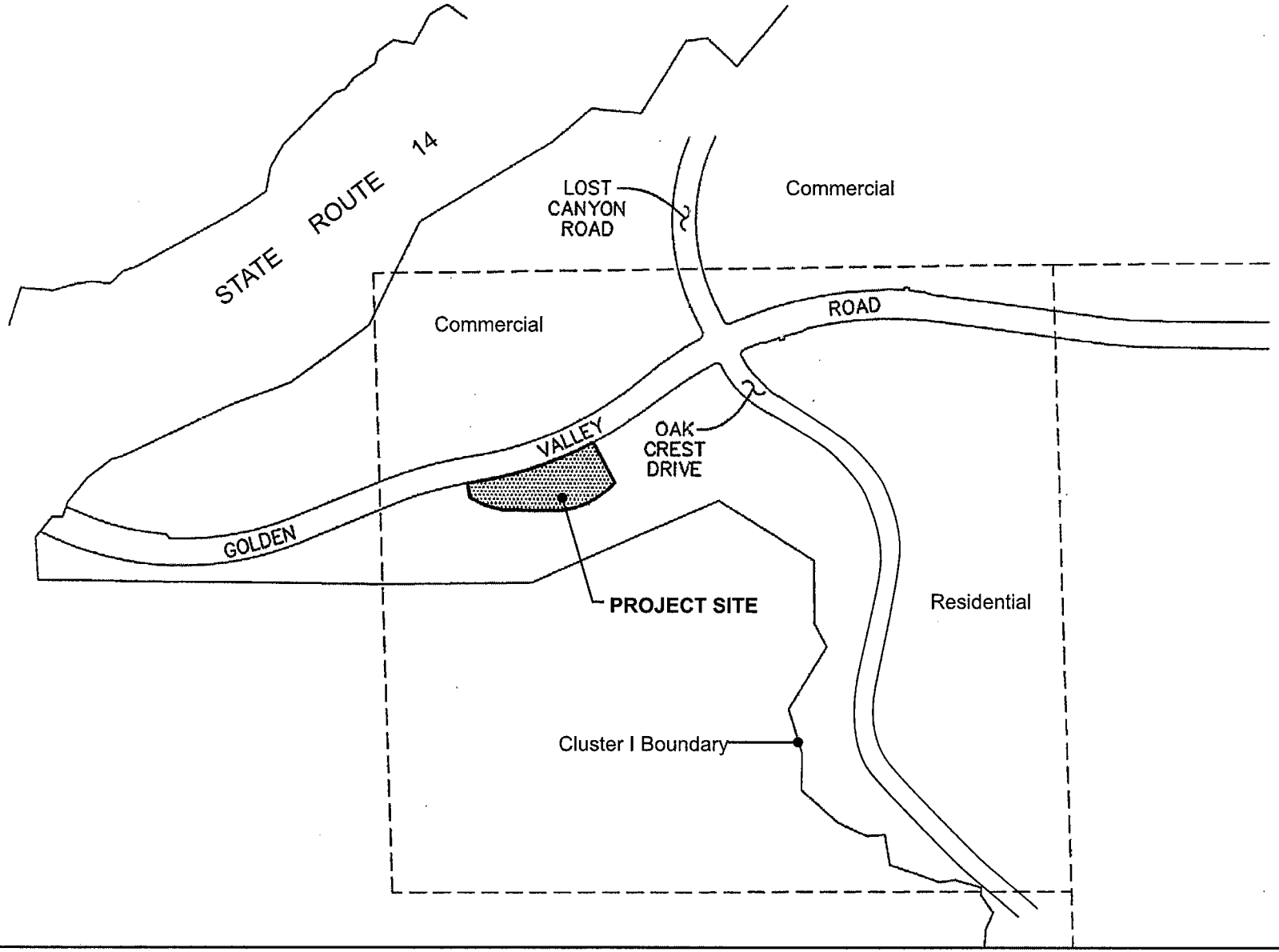
Currently, the nearest sensitive receptor (i.e., residential, schools, hospital, etc.) to the Fire Station 150 site are single-family residential use located over approximately 700 feet from the site to the north of SR-14. However, there would be future residential uses within Golden Valley Ranch that would be located approximately 700 feet east of the site. These single-family residences would be the nearest sensitive receptors to the site. In addition, as film making activities may occur at the Golden Oak Ranch site to the south, this is also considered to be a sensitive receptor.

c. Environmental Setting

The project site is located in the foothills of the San Gabriel Mountains and is characterized by a series of canyons with elevations ranging from 1,600 to 2,300 feet above sea level. The Golden Valley Ranch Project site is designated as Non-Urban 1/Hillside Management (N-1/HM) and Residential Estate (RE) under the Los Angeles County General Plan and Santa Clarita General Plan, respectively. To note, development of the Golden Valley Ranch Project is underway on the site.

d. Proposed Fire Station 150 Project Description

As indicated above, as part of the certified EIR, a mitigation measure was included that requires the construction of a Fire Station within Golden Valley Ranch. Construction of Fire Station 150 would implement that mitigation measure. The fire station would specifically be



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Not to scale

Source: City of Santa Clarita, 2008.

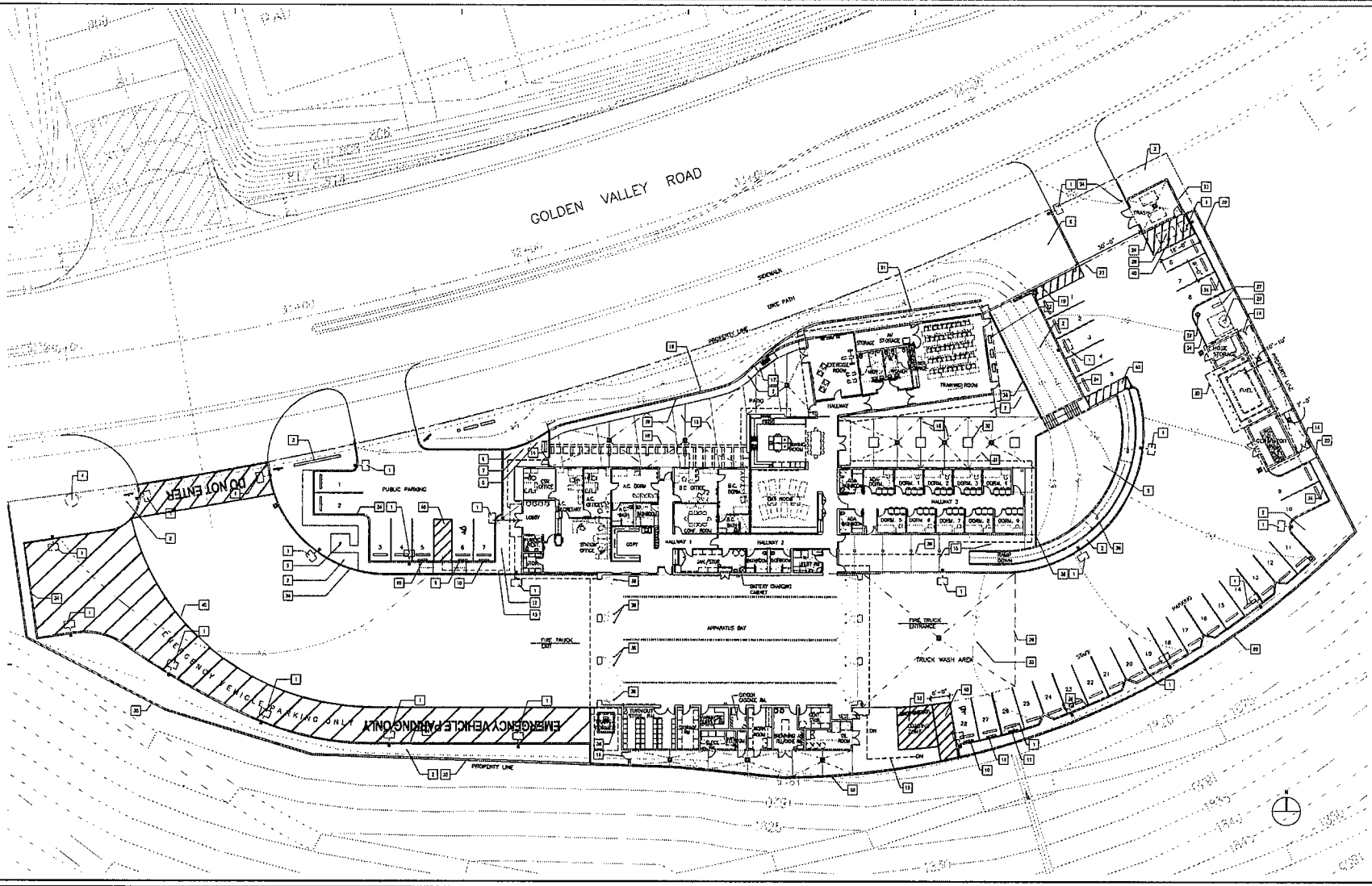
Figure 1
Project Location Map

located on approximately 1.96-acres of undeveloped land that has been previously rough graded for site development. It is anticipated that the site would be fine graded as part of the development of Golden Valley Ranch. As such, this analysis assumes that the site would be graded prior to implementation of the proposed fire station project. The proposed 20,000 square foot fire station would include approximately 15,015 square feet for "house" operations and approximately 4,985 square feet for apparatus bays. The fire station would be equipped with a 200-kilowatt (kW) generator and above-ground storage tanks that can accommodate 750 gallons of generator diesel fuel, 3,000 gallons of apparatus diesel fuel, and 750 gallons of unleaded gasoline. Parking to be provided on-site includes three fire truck bays, 30 fire station staff parking spaces including five covered spaces, a reserved space for the Battalion Chief, and three public parking spaces including one handicapped-accessible space. Figure 2 below illustrates the site plan for Fire Station 150 and related facilities and parking areas.

Fire station personnel would include a total of eleven 24-hour firefighters, an Assistant Fire Chief, and three civilian staff. During shift changes, a total of 26 firefighters would be present on-site. A traffic signal would be installed at the fire station emergency egress driveway with station-controlled preemption during emergency and non-emergency responses. The proposed fire station would be a LEED-certified building to more efficiently utilize key resources than conventional buildings that are built to standard building codes. Upon completion, Fire Station 150 would provide an improved level of fire protection, emergency medical, and other life safety services to the adjacent communities. The LACFD's goal, when areas have transitioned from rural to urbanized areas, is to arrive on the scene of an emergency call within five minutes from the time of dispatch. Fire Station 150 would play a strategic part in achieving this goal by reducing overall emergency response times and providing increased levels of service.

4. APPLICATION OF PREVIOUSLY CERTIFIED ENVIRONMENTAL DOCUMENTATION TO MODIFIED PROJECT WITH FIRE STATION 150

This section compares the impacts of the Modified Project with Fire Station 150 with the impacts analyzed in the certified EIR for the Golden Valley Ranch Project. Each environmental topic addressed by the previously certified environmental documentation is addressed below. All mitigation measures recommended by the certified EIR that are applicable to the Modified Project are incorporated by reference herein and would also be implemented as part of the Modified Project, except where, due to conditions specific to the Modified Project, a recommended mitigation measure is determined to be inappropriate.



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No scale

Source: gkkworks. 2008.

Figure 2
Fire Station 150 Proposed Site Plan

4.1 Aesthetics

Original Project. As described in the certified EIR, the Golden Valley Ranch project site is located in a relatively undeveloped area within Los Angeles County. The southern portion of Golden Valley Ranch is located within Placerita Canyon, separating it from Placerita Canyon State Park and the Angeles National Forest. The Golden Oak Ranch is located immediately southwest of Golden Valley Ranch, and is used for motion picture filming. The Golden Valley Ranch Project would alter scenic vistas from public viewing locations and obstruct views of City-designated primary ridgelines. The development of Cluster 3 would block views of distant ridgelines along Placerita Canyon Road and alter the existing rural character to a more urbanized environment. Furthermore, construction of Golden Valley Road east of State Route 14 would alter the City-identified primary ridgeline that is visible from Golden Oak Ranch. Proposed residential development would not be generally visible from the north or west. However, the proposed 56-acre commercial area within Cluster 1 would be visible from State Route 14 and the residential areas west of the freeway. Viewsheds along the freeway corridor are considered to be of high sensitivity because they are seen by thousands of viewers daily, and the freeway corridor is a major gateway to the City. As such, City-identified primary ridgelines would no longer be visible from parts of State Route 14, Golden Valley Road, and the residential area west of the freeway as a result of project development. While a mitigation measure has been recommended to minimize potential impacts to Golden Oak Ranch, no mitigation measures are available to reduce impacts to public viewing areas along Placerita Canyon Road, State Route 14, and Golden Valley Road. As such, impacts would be significant and unavoidable.

The Golden Valley Ranch project site currently contains no nighttime lighting sources. Development of Golden Valley Ranch would require additional lighting to provide safety for vehicular and pedestrian movement, and increase security. However, the additional lighting may be visible off-site, with streetlights visible from residences located to the north, and from Golden Oak Ranch to the south. As a result, streetlights, entry lights, interior lights, parking lot lights, and security lights have the potential to degrade nighttime views of the area. Although the residential component of the Golden Valley Ranch Project would not result in major sources of glare, commercial development within the project area could create glare impacts for on-site residential areas and off-site residences located to the north and west. However, mitigation measures have been proposed to reduce adverse effects of excessive lighting to a less than significant level.

As the Golden Valley Ranch Project is required to be consistent with the Community Design Element of the General Plan, it is not anticipated that all designs would comply with applicable goals and policies. On-site development could be of styles and designs that are inconsistent with the Community Design Element, which could adversely affect the collective aesthetic of the area. However, a mitigation measure has been recommended to ensure consistency with applicable Community Design Element goals and policies to produce an

environment that is compatible with the surrounding area. With implementation of the prescribed mitigation, impacts would be less than significant.

The City of Santa Clarita's Ridgeline Preservation and Hillside Development Ordinance establishes development standards and objectives relating to hillside development. The Hillside Development Standards Ordinance does not permit engineered slopes, housing construction, streets, utilities, or other manmade features within primary ridgeline areas. Although development of the Golden Valley Ranch Project would adhere to a majority of the standards established in the Ridgeline Preservation and Hillside Development Standards Ordinance, some of the topographic modifications could conflict with the Ordinance. The certified EIR concludes that outside of revising the Golden Valley Ranch site plan to avoid the primary ridgeline in the western portion of the site, the modification of a Primary ridgeline cannot be avoided.

Modified Project. Similar to the Original Project, construction of the Modified Project with Fire Station 150 at 19190 Golden Valley Road would be expected to comply with all applicable City standards and policies including the Community Design Element of the General Plan and the Ridgeline Preservation and Hillside Development Ordinance. Fire Station 150 is not expected to exceed 32 feet in height, and would not result in significant impacts to views in excess of that discussed in the certified EIR. Specifically, as the fire station site would be located south and west of a proposed commercial area along Golden Valley Road, the fire station would only be partially visible, if at all, from southerly and easterly views to the site from State Route 14. The fire station would not be highly visible from the residential cluster communities on-site or the off-site residential area located west of State Route 14. Due to the large hillside located south of the fire station site, views of the fire station from public viewing locations would be obstructed from the south and southeast.

In summary, the primary views of the fire station would be from the west and from the northern commercial development directly across from the site, neither of which are considered to be sensitive viewing locations. The fire station presents no significant change regarding the visual character of the Golden Valley Ranch Project beyond those impacts analyzed in the previously certified EIR. As the fire station site is not located on a primary ridgeline, no new impacts regarding consistency with Ridgeline Preservation and Hillside Development Standards Ordinance would occur. Furthermore, the light and glare generated from the fire station would be minimal and would represent a negligible contribution to the light generation associated with the Golden Valley Ranch Project as a whole. As a result, conclusions reached in the certified EIR would also apply to the development of Fire Station 150, but impacts are not expected to be greater due to the relatively low intensity of the fire station project and its location in the context of the larger Golden Valley Ranch development. As such, impacts regarding aesthetics, light, and glare would be reduced to the extent feasible with all applicable mitigation measures and are within the scope of impacts addressed in the certified EIR.

4.2 Air Quality

Original Project. Construction of the Golden Valley Ranch Project would generate fugitive dust and combustion emissions. The SCAQMD has established significance thresholds for pollutant emissions from project construction and operations within the South Coast Air Basin, which the County has adopted. Regional construction emissions for the project are expected to exceed the South Coast Air Quality Management District (SCAQMD) daily significance threshold of 100 pounds per day for nitrogen oxides (NO_X), and 150 pounds per day for particulates less than 10 microns in diameter (PM_{10}). Furthermore, reactive organic compounds (ROC) emissions are also estimated to exceed the 75 pounds per day threshold, and would result in significant impacts to air quality. Although mitigation measures have been proposed to reduce pollutant emissions during construction, the project would still exceed the SCAQMD daily emission thresholds for NO_X, PM_{10}, and ROC. As such, even with all feasible mitigation, air quality impacts associated with construction activity would still be considered significant and unavoidable.

Air pollutant emissions associated with project occupancy and operation would be generated by both the consumption of energy (electricity and natural gas) and by the operation of on-road vehicles. Regional emissions resulting from project operation would exceed the SCAQMD thresholds for all criteria pollutants except sulfur oxides (SOX). Therefore, operation of the project would result in a significant impact to regional air quality. Although the EIR project addresses alternatives for transportation along with additional mitigation measures to minimize air quality impacts, emissions would be expected to remain well above the SCAQMD thresholds. As such, the impact to regional air quality would be considered significant and unavoidable.

In addition, project traffic generation would increase carbon monoxide (CO) levels at some of the intersections. However, these impacts would be considered less than significant because the concentrations would remain below California's one-hour standard of 20 parts per million (ppm) or 8-hour standard of 9 ppm. An analysis was performed to determine the potential for creation of CO hotspots attributable to the project. This analysis indicated that project-related traffic would not exceed the State emission standards. Thus, operation of the project would not result in a significant impact to local air quality.

Modified Project. Construction activities associated with the Modified Project with Fire Station 150 do not present any significant impact beyond that previously addressed in the certified EIR. As discussed on page 4.2-4 of Section 4.2, Air Quality, of the certified EIR, maximum daily emissions occur during the grading phase of construction. The fire station would specifically be located on approximately 1.96-acres of undeveloped land that has been previously mass graded for site development. It is anticipated that the fire station site would be fine graded as part of the development of Golden Valley Ranch. Conservatively, the following

discussion evaluates the grading phase should additional fine grading of the site be necessary. The grading phase uses substantial heavy duty construction equipment and generates the largest amount of fugitive dust, which is the primary source of emissions during construction. On a worst-case grading day, it was estimated in the certified EIR that grading activities would involve the use of up to 13 pieces of heavy equipment, including scrapers, a motor grader, and wheeled bulldozers. Should additional fine grading of the site be required, the maximum daily amount of grading activities is not anticipated to change under of the Modified Project with Fire Station 150. Pollutant emissions and fugitive dust from site grading and construction activities would be similar on a daily basis, as the duration and not the intensity of these activities could increase compared to the proposed project. Thus, impacts during maximum conditions, those used for measuring significance, would be similar to those disclosed in the certified EIR..

Operational air quality impacts associated with the Modified Project with Fire Station 150 do not present additional impacts of significance beyond those analyzed in the certified EIR. The Modified Project would result in an increase of approximately 35 daily trips from emergency (up to five responses per day) and non-emergency responses, including staff and visitor trips (less than 30 trips per day). On a regional basis, the Modified Project would not result in an increase in emergency Fire Department vehicle trips. Operation of the fire station may even result in a decrease in the vehicle miles traveled, as this station is closer to the residences and businesses than existing stations. However, as a worst-case evaluation, this study considers emissions from both the new employee commuter trips and Fire Station truck trips as incremental sources of emissions. The 20,000 square feet Fire Station 150 associated with the Modified Project would result in an increase in stationary source emissions, including the consumption of fossil fuels for comfort heating and the generation of electricity for cooling, lighting, and power needs, as compared to the Original Project. The URBEMIS 2007 model output files are contained in Appendix A of this document. As indicated therein, pollutant emissions associated with Fire Station 150 would be below SCAQMD regional significance thresholds. In comparison to SCAQMD regional significance thresholds, operational emissions from the fire station would be 1.4 percent of CO, 3.5 percent of ROC, 12.2 percent of NO_X, 0.1 percent of SO_X, 0.7 percent of PM_{10}, and 0.6 percent of the $PM_{2.5}$ significance threshold. The Modified Project with Fire Station 150 would result in an increase of approximately 0.2 percent in CO, 0.2 percent in ROC, 0.8 percent in NO_X, 8.5 percent in SO_X, and 0.5 percent in PM_{10} emissions as compared to emissions presented in Table 4.2-3, Operational Emissions Associated with the Proposed Project, in the certified EIR. While the Modified Project would result in a slight increase in criteria pollutant emissions, the increase in operational emissions would not result in any new significant impacts not already disclosed in the certified EIR.

In conclusion, emissions associated with the construction and operations of the Modified Project with Fire Station 150 are within the scope of the certified EIR Air Quality Section. No new impacts are anticipated as a result of the fire station, and mitigation measures applied to significant project impacts in the EIR would also be applied to the fire station, as appropriate.

Global Climate Change

Original Project. Construction of the Golden Valley Ranch Project would generate greenhouse gas (GHG emissions). However, the analysis of impacts to global climate was not included when the previously adopted EIR was completed, since they were not routinely included in environmental analyses at that time.

Modified Project. This analysis of impacts relating to global climate change considers regulatory publications from the California Air Pollution Control Officers Association (CAPCOA), the State Office of the Attorney General and the Governor's Office of Planning and Research (OPR), as well as draft regulatory publications from the SCAQMD, and the California Air Resources Board (CARB), to assess the potential impacts of the Fire Station 150 project on global climate and the potential impacts of global climate change on the Fire Station 150 project.

As part of this addendum to the certified EIR, PCR conducted a project-level analysis for the proposed Fire Station 150, as well as a cumulative effects analysis to estimate the emissions of GHG during construction and operation of the proposed fire station. The primary objectives of this analysis were to quantify the GHG impacts from (1) the typical everyday operation of the fire station and (2) construction of the fire station. As part of the analysis, a qualitative assessment of the Fire Station 150 project features that will help reduce GHG emissions is also provided.

Background

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, some data indicate that the current global conditions differ from past climate changes in rate and magnitude. There continues to be significant scientific uncertainty concerning the extent to which increased concentrations of GHGs have caused or will cause climate change, and over the appropriate actions to limit and/or respond to climate change.

GHGs are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. Specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the Earth's atmosphere have been linked to global climate change and such conditions as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increased frequency and magnitude of severe weather conditions. Existing climate change

models also show that climate warming portends a variety of impacts on agriculture, including loss of microclimates that support specific crops, increased pressure from invasive weeds and diseases, and loss of productivity due to changes in water reliability and availability. In addition, rising temperatures and shifts in microclimates associated with global climate change are expected to increase the frequency and intensity of wildfires.

GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor (H_2O), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon dioxide is the most abundant GHG in the atmosphere, and represents 77 percent of total GHG emissions.[1]. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. In the state of California, the transportation sector is the greatest source of GHG emissions, accounting for 38 percent of total GHG emissions in 2004, the latest year for which data are available.[2]

Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the equivalent mass of CO_2, denoted as CO_2e. CO_2e allows for comparability among GHGs with regard to the global warming potential (GWP). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[3] These GWP ratios are available from the United States Environmental Protection Agency (USEPA) and published in the California Climate Action Registry (CCAR) Protocol. By applying the GWP ratios, Fire Station 150 project related CO_2e emissions can be tabulated in metric tons per year. The CO_2e values are calculated for the entire construction period. Construction output values used in this analysis are adjusted to represent a CO_2e value representative of CO_2, CH_4, and N_2O emissions from project construction activities. HFCs, PFCs, and SF_6 are not byproducts of combustion, the primary source of construction-related GHG emissions, and therefore are not included in the analysis. Construction CH_4 and N_2O values are derived from factors published in the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. These values are then converted to metric tons of CO_2e for consistency.

Our understanding of the fundamental processes responsible for global climate change has improved over the past decade, and our predictive capabilities are advancing. However,

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[1] *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Synthesis Report, 2007.*

[2] *California Air Resources Board, Greenhouse Gas Emissions Inventory Data: 2004 GHG emissions by Sector, 2008.*

[3] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

there remains significant scientific uncertainty, for example, in predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system, the uncertainty surrounding climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change.

The IPCC, in its Fourth Assessment Report (FAR), stated that "it is likely that there has been significant anthropogenic warming over the past 50 years."[4] However, it is impossible to identify a single development project as the cause of future specific climate change impacts due to the global nature of climate change. Also in the FAR, the IPCC holds that the impacts of future climate change will vary across regions. While "large-scale climate events have the potential to cause very large impacts," the impacts of future climate change will be mixed across regions.

Regulatory Framework

Federal. On May 19, 2009, President Obama announced a new federal policy "aimed at both increasing fuel economy and reducing greenhouse gas pollution for all new cars and trucks sold in the United States." The policy proposes fuel efficiency standards that would apply to model years 2012 through 2016. These standards would be more aggressive than the federal Corporate Average Fuel Economy (CAFE) standards and would result in a reduction of approximately 900 million metric tons of GHG.

State. In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the State. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. It should be noted that setting emission standards on automobiles is solely the responsibility of the federal Environmental Protection Agency. The federal Clean Air Act (CAA) allows States to set state-specific emission standards on automobiles if they first obtain a waiver from the USEPA. The USEPA denied California's request for a waiver, thus delaying the CARB's proposed implementation schedule for setting emission standards on automobiles to help reduce GHGs.

[4] *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Summary for Policy Makers, 2007.*

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary for California EPA to report every two years on the State's progress toward meeting the Governor's GHG emission reduction targets. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT is made up of representatives from a number of State agencies and was formed to implement global warming emission reduction programs and reporting on the progress made toward meeting statewide targets established under the Executive Order. State agency members include the Business, Transportation and Housing Agency; Department of Food and Agriculture; Resources Agency; Air Resources Board; California Energy Commission; the Public Utilities Commission; and Department of Water Resources. The CAT published its Climate Action Team Report to Governor Schwarzenegger and the Legislature in March 2006, in which it laid out forty-six specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the executive order.

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32, into law. AB 32 commits the State to achieving the following:

- A reduction of GHG emissions to 2000 levels by 2010 (which represents an approximately 11 percent reduction from business as usual).
- A reduction of GHG emissions to 1990 levels by 2020 (approximately 30 percent below business as usual).

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. The following schedule outlines the CARB actions mandated by AB 32:

- By January 1, 2008, CARB adopts regulations for mandatory (GHG) emissions reporting, defines 1990 emissions baseline for California (including emissions from imported power), and adopts it as the 2020 statewide cap.[5]
- By January 1, 2009, CARB adopts plan to effect GHG reductions from significant sources of GHG via regulations, market mechanisms and other actions.[6]

[5] *CARB has adopted 427 million metric tons of carbon dioxide equivalent (MMTCO2e) as the total statewide greenhouse gas 1990 emissions level and the 2020 emissions limit. See http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm (last visited 8/14/2008).*

- During 2009, CARB drafts rule language to implement its plan and holds a series of public workshop on each measure (including market mechanisms).
- By January 1, 2010, early action measures will take effect.
- During 2010, CARB, after workshops and public hearings, conducts series of rulemakings to adopt GHG regulations including rules governing market mechanisms.
- By January 1, 2011, CARB completes major rulemakings for reducing GHGs, including market mechanisms. CARB may revise and adopt new rules after January 1, 2011 to achieve the 2020 goal.
- By January 1, 2012, GHG rules and market mechanisms adopted by CARB take effect and become legally enforceable.
- December 31, 2020 is the deadline for achieving 2020 GHG emissions cap.

CARB's list of discrete early action measures that can be adopted and implemented before January 1, 2010 was approved on June 21, 2007, and focuses on major State-wide contributing sources and industries, not on individual development projects or practices. These early action measures are: 1) a low-carbon fuel standard; 2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and 3) increased methane capture from landfills. Recently, CARB released emissions inventory estimates for 1990 through 2004.

A companion bill to AB 32, Senate Bill (SB) 1368, requires the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to establish GHG emission performance standards for the generation of electricity. These standards will also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting ARB to meet its mandate under AB 32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour (MW/hr). Further, on May 23, 2007, the CEC adopted regulations that establish and implement an identical EPS of 1,100 pounds of CO_2 per MW/hr (see CEC order No. 07-523-7).

[6] *CARB released the Climate Change Proposed Scoping Plan in October 2008, which details the strategies that the State will use to reduce GHG emissions. The Plan was approved at the Board hearing in December 2008.*

An additional bill related to AB 32, SB 97, requires the California Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including but not limited to, effects associated with transportation or energy consumption. The Resources Agency will then be required to certify and adopt the guidelines by January 1, 2010, and to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to AB 32.[7] The OPR released a technical advisory on addressing climate change through CEQA Review on June 19, 2008. This guidance document outlines suggested components to CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of significance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures.

There has also been California legislative activity acknowledging the relationship between land use planning and transportation sector GHG emissions. California Senate Bill 375 (passed Assembly on 8/25/2008; passed Senate on 8/30/2008; signed by the Governor on September 30, 2008) links regional planning for housing and transportation with the greenhouse gas reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating housing closer to jobs, retail, and transit. Under the bill, each Metropolitan Planning Organization would be required to adopt a sustainable community strategy to encourage compact development so that the region will meet a target, created by CARB, for reducing GHG emissions.

Local. In January 2007, as part of the County's efforts to help conserve natural resources and protect the environment, the County of Los Angeles Board of Supervisors adopted a comprehensive Countywide Energy and Environmental Policy. The goal of the Policy is to provide guidelines for the development, implementation, and enhancement of energy conservation and environmental programs. The Policy established an Energy and Environmental Team to coordinate the efforts of various County departments, establish a program to integrate sustainable technologies into its Capital Project Program, reduce energy consumption in County facilities by 20 percent by the year 2105, and commit to joining the California Climate Action Registry to assist the County in establishing goals for the reduction of GHG emissions. The County joined the Climate Action Registry in 2007. The Policy consists of the following four program areas designed to promote "green" design and operation of County facilities and to reduce the County's "environmental footprint:"

- energy and water efficiency,

[7] *Senate Bill No. 97, Chapter 185, approved by Governor Schwarzenegger and filed with the Secretary of State, August 24, 2007.*

- environmental stewardship,
- public outreach and education, and
- sustainable design.

The energy and water efficiency program area's goal is to reduce energy consumption in County facilities by 2015 through decreasing energy and water waste, implementing energy and water efficiency projects, and educating employees on energy and water conservation. The environmental stewardship program area focuses on measuring and reducing the County's environmental footprint by becoming a member of the California Climate Action Registry and implementing strategies to "green" the County's basic operations. These strategies include looking into environmentally responsible purchasing standards, having recycling bins in County buildings, investigating green cleaning products for custodial operations, and investigating the utilization of existing resources. The public outreach and education program area will augment County communication and outreach to include energy and water conservation practices, utility rates and rate changes, rotating power outage information, emergency power outage information, and energy efficiency incentives. Finally, the sustainable design program area intends to incorporate sustainable and green features into the County's capital improvement and refurbishment projects with the intention of optimizing the performance and extending the useful life of County buildings.

Recognizing the overlap between land use and GHG emissions, the Los Angeles County Board of Supervisors adopted a set of green building program ordinances in November, 2008 that cover low impact development (LID) standards, drought-tolerant landscaping requirements, and green building development standards.

The LID ordinance states: "LID encourages site sustainability and smart growth in a manner that respects and preserves the characteristics of the County's watersheds, drainage paths, water supplies, and natural resources."[8] For developments consisting of four or fewer residential units, at least two LID best management practices (BMPs) must be implemented in the site design. BMPs are "designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint sources of discharges, including stormwater," and include such methods or practices as disconnecting impervious surfaces, using porous pavement, landscaping and irrigation requirements, and a green roof.

The drought-tolerant landscaping ordinance is designed to "help conserve water resources by requiring landscaping that is appropriate to the region's climate and to the nature of a

[8] *Title 12, Chapter 12.84, Low Impact Development Standards, of the Los Angeles County Code. http://planning.lacounty.gov/assets/upl/project/green_20080507-green-building-program-ordinances.pdf*

project's use."[9] The ordinance applies to all projects regardless of size, and requires that 75 percent of projects' total landscaped areas contain drought-tolerant plants. The ordinance limits the amount of turf allowed on a project site to 25 percent of the total landscaped area, or 5,000 square feet. All turf within a landscaped area must be water-efficient. In addition, landscaped areas must be organized by "hydrozones in accordance with their respective water, cultural (soil, climate, sun and light), and maintenance requirements."

The green building ordinance is intended to encourage building practices that conserve water, energy and natural resources; divert waste from landfills; minimize impacts to existing infrastructure; and promote a healthier environment.[10] Implementation of this ordinance will reduce energy demand in new buildings, and thus GHG emissions from new projects. For projects having a gross floor area more than 10,000 and less than 25,000 square feet, the ordinance requires that structures be built to new building standards in addition to being designed to meet LEED certification standards. The Green Building Standards are summarized below.

- **Energy Conservation**: Buildings must reduce energy demand by at least 15% below Title 24.

- **Outdoor Water Conservation**: A smart irrigation controller must be installed for any landscaped area of the project.

- **Resource Conservation**: At least 50 percent of construction waste (by weight) must be recycled.

- **Tree Planting**: A minimum of one 15-gallon trees must be planted and maintained for every 5,000 square feet of developed area. At least 50 percent of the trees must be listed on the drought-tolerant approved plant list.

Since the adoption of the Policy, the County has taken steps to ensure compliance with the goals of the Policy and ultimately, AB 32. In order to meet the 20 percent reduction of energy consumption goal, the County has implemented energy efficient projects in County facilities, specifically retrofitting or replacing building lighting systems and air conditioning equipment. Accordingly, annual electrical consumption in County facilities was reduced by 2.31 percent in 2007 and 3.09 percent in 2008; annual gas consumption was reduced by 1.17 percent in 2007 and 1.83 percent in 2008 (LACDPW 2008). Additionally, the Los Angeles County

[9] *Title 21, Chapter 22.52, Part 21, Drought Tolerant Landscaping, of the Los Angeles County Code. http://planning.lacounty.gov/assets/upl/project/green_20080507-green-building-program-ordinances.pdf*

[10] *Title 22, Chapter 22.52, Part 20, Green Building, of the Los Angeles County Code. http://planning.lacounty.gov/assets/upl/project/green_20080507-green-building-program-ordinances.pdf*

Recycled Water Task Force accomplished the following milestones towards its goal of recommending and implementing the use of recycled water for non-potable purposes to meet the demands of an additional 1.3 million people:

- Established membership in the Water Reuse Association and the Los Angeles County Recycled Water Advisory Committee.

- Secured Adoption of an ordinance by the Board naming the Director of Public Works or his designee the lead County official on matters related to recycled water.

- Assisted County Waterworks Districts in drafting revised policies and procedures to require its customers to use recycled water for non-potable, outdoor use.

- Participated in efforts to develop recycled water supplies within the Antelope Valley area of Los Angeles County.

- Prepared a draft 5 signature letter from the Board to the Governor requesting that Caltrans be directed to prepare a master plan for converting its irrigation systems to recycled water.

- Established effective working relationships with all recycled water providers within Los Angeles County.

- Assisted the Department of Parks and Recreation in beginning the capital planning process for converting all of their facilities to recycled water for irrigation purposes by the year 2020.

- Facilitated discussions between the Department of Parks and Recreation (DPR) and West Basin Municipal Water District (WBMWD) to enable delivery of recycled water to DPR facilities in WBMWD service area.

- Initiated development of a County-wide strategic plan in cooperation with the Chief Executive Office for converting all County facilities to recycled water for irrigation.

- Facilitated an agreement between the City of Los Angeles Department of Water and Power, the West Basin MWD, the Water Replenishment District, and Public Works to conduct a study of the Department's Modified Fouling Index standard

for water delivered to the seawater barriers to potentially increase the amount of recycled water used for barrier injection.

- Developed County positions on bills pending in the California Assembly or Senate, including AB 1481, SB 201, and AB 2270.

The County has also developed/adopted and implemented tools and policies to support the reduction of GHG emissions, promote "green" development, and provide employees and the public with information and opportunities to reduce their energy consumption. These tools and policies include: the Electronic Products Environmental Assessment Tool, which identifies and certifies environmentally preferable electronic equipment; the green building ordinance, which requires all new private development within the unincorporated areas of the County to incorporate green building elements and will lead to all projects over 10,000 square feet in size to be certified under LEED™ or equivalent standards, and the incorporation of Low Impact Design Standards and drought tolerant landscaping; County-sponsored recycling programs, which have distributed 40,000 desk signed paper recycling bins to County employees and require that all County departments purchase paper with a minimum 30 percent recycled content; the Vehicle Purchasing Services Program which provides incentives for County employees, retirees, family members, and contractors/sub-contractors to purchase alternate fuel vehicles; and the Single Use Bag Reduction and Recycling Program which aims to reduce the consumption and disposal of plastic carryout bags in County unincorporated areas and partner cities (LACDPW 2008).

In addition to the achievements discussed above, the County has also committed to achieving several additional goals and standards moving forward. The County has pledged to be a "Cool County" by establishing a GHG footprint, developing a GHG mitigation plan, working with local entities to reduce regional GHG emissions by 80 percent by 2050, and supporting further legislation to raise CAFE standards. The County plans to install energy saving systems on all vending machines on its properties to reduce operating costs and GHG emissions. The County will also develop a program to allow employees to purchase public transportation passes through a "pre-tax" payroll plan and has created a countywide "solar mapping" portal to provide an internet-based resource for residential and commercial building owners to receive information on the viability of installing rooftop solar projects (LACDPW 2008).

Regional. There is no regional agency responsible for the regulation of GHG emissions related to global climate change. The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SCAB). Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate factors leading to global climate change or GHG emission issues associated with plans and new development projects throughout the SCAB.

In order to provide GHG emission analysis guidance to the local jurisdictions within the SCAB, the SCAQMD has organized a Working Group to develop GHG emission analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. SCAQMD also proposed a screening level of 3,000 metric tons per year for commercial or residential projects, under which project impacts are considered "less than significant." The 3,000 metric ton screening level was intended "to achieve the same policy objective of capturing 90 percent of the GHG emissions from new development projects in the residential/commercial sectors."[11] For projects with GHG increases greater than 3,000 metric tons per year, the use of a percent emission reduction target (e.g., 30 percent) was proposed to determine significance. This emission reduction target is a reduction below what is considered "business as usual." SCAQMD also proposes that projects amortize construction emissions over the 30-year lifetime of any given project. Project construction emissions can be amortized by calculating total construction period emissions and dividing by the 30-year lifetime of the project. In December 2008, SCAQMD adopted interim CEQA GHG significance thresholds for use only when SCAQMD is the lead agency on Projects. These thresholds apply to stationary source (industrial) projects only, and include a 10,000 metric ton CO_2e screening level. SCAQMD has not recommended them for use by other lead agencies at this time. As of May 2009, SCAQMD and the Working Group are developing interim CEQA GHG significance thresholds for use in a broader context by other lead agencies.

Significance Thresholds

Section 15064.7 of the CEQA Guidelines defines a threshold of significance as an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. CEQA gives wide latitude to lead agencies in determining what impacts are significant and does not prescribe thresholds of significance, analytical methodologies, or specific mitigation measures. CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. However, the South Coast Air Quality Management District (SCAQMD), the City of Santa Clarita, and the County of Los Angeles, have not yet established specific quantitative significance thresholds for GHG

[11] *SCAQMD, Board Meeting, December 5, 2008, Agenda No. 31, Interim GHG Significance Threshold Proposal – Key Issues/Comments Attachment D.*

emissions. The regulations required to meet the State goals under AB 32 are still under development. Furthermore, pursuant to SB 97, guidelines to be prepared by OPR for addressing greenhouse gas emissions under CEQA may not be adopted until January 1, 2010. Additionally, OPR released preliminary draft CEQA guideline amendments for GHG emissions in January 2009. OPR does not identify a threshold of significance for GHG emissions, nor has it prescribed assessment methodologies or specific mitigation measures. The preliminary draft amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The draft guideline amendments augmented Appendix G of the CEQA Guidelines, the environmental checklist form, to include a section on greenhouse gas emissions. The draft guideline amendments suggested the following questions:

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The preliminary draft amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. OPR is required to "prepare, develop, and transmit" the guidelines to the Resources Agency on or before July 1, 2009, for certification and adoption. The draft guidelines were transmitted on April 13, 2009 by OPR to the Natural Resources Agency.

Accordingly, at this time there is no formal guidance under CEQA and no available quantitative standards by which the approval of a commercial or residential project similar to a fire station project must be measured to support or hinder attainment of the State's goals relating to GHG abatement.

While the OPR has not yet adopted formal significance thresholds, OPR issued a guidance document on June 19, 2008 to provide interim advice to lead agencies regarding the analysis of GHG emissions in environmental documents. The technical advisory suggests three components for CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of significance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures. The analysis contained herein follows this guidance. CAPCOA released a white paper, entitled CEQA and Climate Change, in January 2008. The white paper examines various threshold approaches available to air districts and lead agencies for determining whether

GHG emissions are significant. One of CAPCOA's proposed approaches in the white paper is a "non-zero" threshold of 900 annual metric tons for residential and office projects. Although not directly applicable, the commercial or residential threshold is considered appropriate for this project, because the fire station serves as a residence for fire department employees during their shifts. In addition, "house side" square footage represents a larger portion of the station than the apparatus bays.

CAPCOA and the State of California's Attorney General recognize that potential GHG impacts are exclusively cumulative in nature. Therefore, CAPCOA recommends that lead agencies require some level of mitigation even for projects that result in GHG emissions that are less than a numeric threshold. Because the County's Energy and Environmental Policy serves to reduce GHG emissions from new projects and existing operations, it is supportive of the goals of AB32 and is consistent with the CAPCOA recommendations. Thus, if a project results in emissions less than the numeric thresholds and implements design strategies consistent with the County of Los Angeles Energy and Environmental Policy, it is considered consistent with the goals of AB32, and is considered to have a less than significant impact with respect to its contribution to the cumulative impact of global climate change.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. SCAQMD also proposed a screening level of 3,000 metric tons per year for commercial or residential projects, under which project impacts are considered "less than significant." The 3,000 metric ton screening level was intended "to achieve the same policy objective of capturing 90 percent of the GHG emissions from new development projects in the residential/commercial sectors."[12] For projects with GHG emissions increases greater than 3,000 metric tons per year, the use of a percent emission reduction target (e.g., 30 percent) was proposed to determine significance. This emission reduction target is a reduction below what is considered "business as usual." SCAQMD also proposes that projects amortize construction emissions over the 30-year lifetime of any given project. Project construction emissions can be amortized by calculating total construction period emissions and dividing by the 30-year lifetime of the project. In December 2008, SCAQMD adopted interim CEQA GHG significance thresholds for use only when SCAQMD is the lead agency on Projects. These draft thresholds apply to stationary source (industrial) projects only, and include a 10,000 metric ton CO_2e screening level. SCAQMD has not recommended them for use by other lead agencies at this time. As of May 2009, SCAQMD and the Working Group are developing interim CEQA GHG significance thresholds for use in a broader context by other lead agencies.

[12] *SCAQMD, Board Meeting, December 5, 2008, Agenda No. 31, Interim GHG Significance Threshold Proposal – Key Issues/Comments Attachment D.*

In October 2008, CARB released a draft guidance document regarding interim CEQA GHG significance thresholds, wherein CARB proposed a tiered approach. CARB also proposed separate performance standards for construction, operational energy efficiency, water use, waste, and transportation, as well as a quantitative significance threshold in metric tons of CO_2e (carbon dioxide equivalent) per year. The draft guidance included neither specific performance standards nor numeric significance thresholds for residential or commercial projects. On April 27, 2009, CARB revealed that it had abandoned its development of the proposed interim CEQA GHG significance thresholds in a public meeting; however, as of May 2009 no formal announcement has been publicized on CARB's website or elsewhere.

While it is difficult to predict the specific impact of one project's incremental contribution to the global effects of GHG emissions due to a variety of factors, including the complex and long term nature of such effects and the global scale of climate change, it is possible to quantify a project's incremental increase in GHG emissions for comparison with the numeric threshold proposed in the CAPCOA white paper. The threshold of 900 metric tons proposed in the CAPCOA white paper will be utilized for determining significance on a project level. Due to the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the project's very small theoretical emissions increase could actually cause a measurable increase in global GHG emissions necessary to force global climate change. The GHG emissions of the project alone cannot cause a direct physical change in the environment. It is global emissions in their aggregate that contribute to climate change, not any one source of emissions alone. Therefore, due to the incremental amount of GHG emissions estimated for this project, the lack of any evidence for concluding that the project's GHG emissions could cause any measurable increase in global GHG emissions necessary to force global climate change, and the fact that the project incorporates design features to reduce potential GHG emissions that are consistent with the goals of AB32, the project is not considered to have a significant impact with respect to global climate change on a project-specific basis. Moreover, there is no non-speculative method for assessing how the project's very small theoretical GHG emissions increase could cause a significant project-specific effect on global climate change.

CAPCOA and the State of California's Attorney General recognize that potential GHG impacts are exclusively cumulative in nature. Therefore, CAPCOA recommends that lead agencies require some level of mitigation even for projects that result in GHG emissions that are less than a numeric threshold. Because the County's Energy and Environmental Policy serves to reduce GHG emissions from new projects and existing operations, it is supportive of the goals of AB32 and is consistent with the CAPCOA recommendations. Thus, if a project results in emissions less than the numeric thresholds and implements design and operational strategies consistent with the County of Los Angeles Energy and Environmental Policy, it is considered consistent with the goals of AB32, and is considered to have a less than significant impact with respect to its contribution to the cumulative impact of global climate change.

Methodology

Construction. Construction emissions are calculated using the URBEMIS 2007 model, which is based on OFFROAD2007 model outputs. OFFROAD 2007 is an emissions estimation model developed by CARB to calculate emissions from construction activities. The output values used in this analysis were adjusted to be project-specific, based on usage rates of construction equipment, type of fuel, and construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate GHG emissions values for each construction year (refer to Attachment A). The URBEMIS 2007 model outputs CO_2 emissions only. Therefore, CH_4 and N_2O emissions from Fire Station 150 were estimated based on the emissions ratios for construction and industrial equipment from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories.*

Operation. Mobile source emission calculations associated with operation of the proposed Fire Station 150 utilize a projection of trip rate and annual vehicle miles traveled (VMT), which is derived from URBEMIS2007 defaults. Mobile source emissions are generated from vehicle traffic traveling to and from the project site, specifically fire trucks and commuter trips. Mobile source calculations also utilize EMFAC2007 and the CCAR GRP, Version 3.1 to generate emission factors for CO_2 and CH_4, and N_2O. It should be noted that greenhouse gas reduction factors from *Alternative Compliance Strategies*, contained in AB 1493, were not applied in the EMFAC2007 software. Therefore, such emissions are likely overstated as emission factors for fleet mixes containing post 2009 vehicles would not emulate reductions that would otherwise go into effect as a result of AB 1493 (if the federal waiver is granted). Should the federal waiver be granted, the State of California will be able to tighten emissions standards for those vehicles sold in the State.

The consumption of fossil fuels to generate electricity and to provide heating and hot water creates GHG emissions. Future fuel consumption rates and water demand are estimated based on square footage of the proposed Fire Station 150. Natural gas and electricity usage factors derived from the CEQA Handbook (1993)[13] are used to project fuel consumption rates. Embodied energy rates associated with the fire station's future water supply needs are calculated using factors derived from the California Energy Commission (CEC). GHG emission factors from the Los Angeles Department of Water and Powers 2007 Annual GHG Emissions Report and the CCAR protocol are then applied to the respective usage rates, to calculate annual greenhouse gas emissions in metric tons. These emission factors do not reflect targeted future reductions in GHG emissions under SB 1368. Thus, these emission factors are considered conservative and representative. Operational impacts also include the operation of a diesel

[13] *South Coast Air Quality Management District, California Environmental Quality Act Handbook, 1993.*

powered 200 Kw emergency generator, which is assumed to operate no more than 200 hours per year.

The CEC estimate for energy intensity of the water use cycle in southern California is used to calculate the energy usage related to water conveyance. Emission factors from the CCAR GRP, Version 3.1 are implemented in calculating the associated GHGs. Because water conveyance associated with the fire station is regional in nature, the emission factors used in this component of the analysis represent a State-wide average of known power producing facilities, utilizing various technologies and emission control strategies.

GHG Emission Impacts

Project-level

Construction. Construction of the proposed fire station is anticipated to occur over approximately ten months, tentatively scheduled to begin in October 2009 and end in July 2010. Emissions were calculated from fossil fuel powered on-site construction equipment and off-site vehicles used to transport construction workers and supplies. The first phase, mass site grading, was assumed to require one month and utilize the following typical equipment: graders, rollers, water truck, etc. The second phase, building foundation, was estimated to require one month and utilize the following typical equipment: cement and mortar mixers, concrete/industrial saws, and tractors/loaders/backhoes. The third phase, building construction, was estimated to last 8 months and require the following typical equipment: crawler tractors, rough terrain forklifts, tractor/loader backhoes, etc. Finally, the paving phase was estimated to last one month and require such typical equipment as rollers, paving equipment, etc.

Construction of the fire station is projected to emit a total of 220 tons of CO2e. Results of this analysis are presented in Table 1. These emissions are less than the 900 metric ton threshold proposed by CAPCOA.

The Fire Station 150 project has committed to diverting seventy-five percent of the non-hazardous construction waste from landfills and either recycled or sent to the appropriate sites for reuse. Diversion of this amount of construction waste represents an improvement above business as usual and exceeds the County's proposed requirements. Construction emissions will be amortized across the 30 year lifetime of the proposed project, and therefore will be discussed below.

Operation. The proposed fire station would be approximately 20,000 square feet in size. The fire station would house twelve firefighters at full staffing and a total of 26 personnel would be onsite during shift changes. The fire station design includes GHG–reduction measures that

Table 1

Construction and Operational Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons)
Construction (total)	220
2004 Statewide Emissions	479,740,000
Percent	0.000046%
Construction (Amortized)	7
Annual Operations	
On-Road Mobile Sources (vehicles)[a]	104
Electricity	3
Water Conveyance	2
Natural Gas	2
Emergency Generator	28
Fire Trucks	72
Total Annual Operations	210
2004 Statewide Emissions	479,740,000
Percent	0.000044%
Total (Amortized Construction + Total Annual Operations)	218
Less than 900 tons CO_2e?	**Yes**
2004 Statewide Emissions	479,740,000
Percent	0.000045%

Source: PCR Services Corporation, 2009.

have been included in the quantitative analysis, such as improved energy efficiency and reduced water demand. As shown in Table 1, annual GHG emissions resulting from vehicle, electrical, and natural gas usage associated with operation of the proposed fire station was estimated to be a maximum of 210 metric tons CO_2e with implementation of the above listed design features. Including amortized construction emissions, total anticipated project emissions (7.3 metric tons +210.4 metric tons= 217.7 metric tons) are substantially lower than the 900 metric ton threshold proposed by CAPCOA. Therefore, construction and operational emissions associated with the fire station are not expected to result in a significant impact at the project level.

Cumulative

The County has proposed delivering Fire Station 150 using a Design-Bid Build approach. Although the selected designer may change the mix of LEED points from those anticipated by the County this report is based on the County's expected LEED measures which would be included in the project. The fire station would be constructed to achieve a "Silver" rating from the USGBC's LEED green building program. "Silver" is one of LEED's four levels of certification, which also include "certified," "gold", and "platinum." Each level requires that projects pursue a minimum number of LEED credits beyond the LEED prerequisites. Projects have flexibility with regard to which LEED credits to pursue. The project features of Fire

Station 150 listed below are consistent with the goals of AB32 and the goals of the County of Los Angeles Green Building Ordinance.

To meet the requirements of the County Green Building Ordinance, Fire Station 150 will incorporate the following features:

- **Energy Conservation**: The fire station will install roofing materials with a high Solar Reflectance Index. The project will also consider integrating non-roof strategies, such as providing shade to paved areas and using paving materials with a high Solar Reflectance Index. By mitigating the heat island effect around the project site, the project will lower its air conditioning demand, and thus its peak energy usage. The project would reduce its energy usage by at least 17.5 percent below its ASHRE/IESNA 90.1-2004 baseline. This level of energy conservation exceeds the County's proposed requirements.

- **Outdoor Water Conservation**: Landscape irrigation for the fire station will eliminate the use of potable water by incorporating drought resistant or low-water plants and water-efficient irrigation techniques in addition to the use of recycled water for irrigation, and will include a smart irrigation controller.

- **Resource Conservation**: At least 50 percent of construction waste (by weight) will be recycled.

- **Tree Planting**: The fire station will plant at least two 15-gallon trees on the project site to comply with the Green Building Ordinance.

In addition, Fire Station 150 will reduce its domestic water demand by at least 20 percent through the use of low-water or high-efficiency fixtures.

Furthermore, the California Office of the Attorney General released a Fact Sheet of various GHG mitigation measures that was updated in December 2008. The proposed fire station is consistent with the following applicable measures:

Energy Efficiency

- *Design buildings to be energy efficient.* The fire station has committed to achieving LEED™ Silver Certification and is subject to the County of Los Angeles Green Building Ordinance. Accordingly, the project will achieve a 15 percent reduction in energy demand below Title 24, California's Energy Efficiency Standards.

- *Install light colored "cool" roofs and cool pavements.* The fire station will install roofing materials with a high Solar Reflectance Index. The project will also consider integrating non-roof strategies, such as providing shade to paved areas and using paving materials with a high Solar Reflectance Index.

Water Conservation and Efficiency

- *Create water-efficient landscapes.* Landscaping for the fire station will incorporating drought resistant or low-water plants, water-efficient irrigation techniques, a smart irrigation controller, and use of recycled water for irrigation.

- *Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.* The fire station will utilize water-efficient irrigation techniques and a smart irrigation controller.

- *Used reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.* The fire station will use recycled water for irrigation, thereby eliminating the need for potable water for irrigation.

- *Design buildings to be water*-efficient. Install water-efficient fixtures and appliances. The fire station will install water-efficient and low-water fixtures, and reduce potable water demand by 20 percent.

Solid Waste Measures

- *Reduce and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).* The fire station will divert 75 percent of construction waste from landfills.

Annual GHG emissions resulting from vehicle, electrical, and natural gas usage associated with operation of the proposed fire station was estimated to be a maximum of 210 metric tons CO_2e with implementation of the above listed design features. This represents an approximately 0.000044 percent increase over existing state-wide GHG emissions.

It should be noted that implementation of the proposed design features would result in lower GHG emissions as compared to a building constructed in accordance with current applicable building standards. The emissions estimated in Table 1 are conservatively presented as new emissions and do not represent a net increase over current operations.

Due to the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the project's very small theoretical emissions increase could actually cause a measurable increase in global GHG emissions necessary to influence global climate change. The GHG emissions of the project alone will not likely cause a direct physical change in the environment. It is global emissions in their aggregate that contribute to climate change, not any one source of emissions alone. Therefore, due to the incremental amount of GHG emissions estimated for the fire station, the lack of any evidence for concluding that the project's GHG emissions could cause any measurable increase in global GHG emissions necessary to force global climate change, and the fact that the fire station incorporates design features to reduce potential GHG emissions the project is considered not to hinder the goals of AB32. Conventional cumulative air quality analyses consider related projects; this approach is not appropriate because proximity is irrelevant to the transport and accumulation of GHG in the Earth's atmosphere. The County has adopted an Energy Policy, however, which sets the goal of reducing energy consumption in County facilities by 20 percent by the year 2015. The County's suggested measures to facilitate achieving this goal include implementing and monitoring energy and water conservation practices, implementing energy and water efficiency projects, and enhancing employee energy and water conservation awareness through education and promotions. These measures would not hinder AB32 on a cumulative level. As stated above, the fire station will reduce its baseline energy consumption by 17.5 percent as part of its LEED certification. Thus, because the fire station would result in total GHG emissions less than the 900 metric ton threshold proposed by CAPCOA and adheres to the County's Energy and Environmental Policy, the project is not considered to have a significant impact on a cumulative level.

Effects of Global Climate Change on the Project

A substantial change in the global climate is anticipated to result in potential increases, globally, regionally, and/or locally, in the frequency and intensity of forest/wildland fires, rising sea levels and increased flooding, and decreasing water availability. The anticipated impact of each of these on the project is discussed below.

The proposed fire station is to be located within a suburban environment, incorporating fire resistant design and materials, as appropriate. Thus, wildfires are not expected to threaten the fire station directly. There are no heavily forested areas surrounding the project site. However, portions of the fire station's proposed service area abut naturally vegetated landscapes. Even with enforcement of California Public Resources Code 4291, requiring property owners to maintain appropriate firebreaks, structures within the service area of the proposed fire station may become vulnerable to climate change-induced wildfires. However, the location, equipment and staffing of the proposed fire station make it well situated and poised to combat any climate change-induced fires that may occur in its service area. Thus, impacts associated with climate

change-induced wildland fires are considered to be minimal and no new impacts related to fire hazards are expected to occur beyond those analyzed in the Negative Declaration.

Climate change-induced flooding may occur from either a permanent rise in sea levels or temporary or seasonal rise in surface water. The City of Santa Clarita is located approximately 30 miles inland from the nearest sea (Pacific Ocean), at an elevation ranging from approximately 1,200 feet above mean sea level (msl) to 1,900 feet above msl. According to the California Climate Change Center's March 2009 draft paper, entitled The Impacts of Sea Level Rise on the California Coast, under medium to medium-high emissions scenarios the "mean sea level along the California coast will rise from 1.0 to 1.4 meters (m) by the year 2100." Thus, it is unlikely that sea rise will directly impact the Santa Clarita area. A tributary of Placerita Creek lies southwest of the proposed fire station site and runs south, eventually emptying into the Placerita Creek, approximately one mile from the proposed fire station. In addition, a tributary of the Santa Clarita River approximately one mile northeast of the project site flows south. According to Flood Plain Map #06037C0840F, the site is located in a "Zone D," which indicates an area where flood hazards are undetermined, but possible. The site and surrounding area has or will be graded in accordance with City grading regulations and standard engineering practices to ensure that storm water would be directed off-site into the municipal storm drain system and/or natural conveyance features. Therefore, risks to the proposed fire station from climate change-induced flooding are assumed to be minimal and no new flooding impacts beyond those analyzed in the certified EIR would occur.

Operation of the fire station would create a new nominal water demand for the water provider. Decreased water availability could negatively affect the operation of the proposed fire station. However, potential impacts from climate change-induced water shortages are anticipated to be minimal given the nominal demand for water by the station, and no new water supply impacts beyond those analyzed in the certified EIR would occur.

4.3 Biological Resources

Original Project. The Original Project would reduce the overall diversity of the site by eliminating most of the native grass and wildflower formations, non-native grasslands, sag ponds, seeps, wetlands and natural stream channels on-site, and alter or degrade the chaparral, coast live oak, and coastal sage scrub habitats. As described in Section 4.4, Biology, of the certified EIR, the project applicant(s) would be required to obtain permits from the City to remove on-site oak trees and would be required to comply with the provisions of the permit. While mitigation measures have been prescribed to reduce impacts relating to the loss of oak trees and wetland habitats, the loss of native grasslands cannot be mitigated to a less than significant level due to the lack of suitable areas within the vicinity for grassland reestablishment. Furthermore, the direct removal of oak trees and the loss of wetlands within Golden Valley Ranch would result in significant and unavoidable impacts even with the prescribed mitigation measures.

The Golden Valley Ranch Project would potentially disrupt wildlife movement corridors as development would introduce the presence of roadways, residential, commercial, educational, and recreational uses. The project would retain broad expanses of open space that would retain some habitat connectivity, but it is anticipated that wildlife movement would still be significantly impacted from the removal of grassland habitats and the development of Cluster 2 in particular, restricting movement between the Santa Clara River and natural areas south of Placerita Canyon Road. With mitigation measures recommended to minimize impacts relating to habitat connectivity, impacts would not be fully mitigable given the proposed configuration of the project and would result in significant and unavoidable impacts.

Sensitive species would be impacted by Golden Valley Ranch Project development including the western spadefoot toad, ring-necked snake, two-striped garter snake, white-tailed kite, long-eared owl, and prairie falcon. Mitigation measures compliant to the Department of Fish and Game restrictions have been proposed to reduce habitat loss impacts to the western spadefoot toad, ring-necked snake, two-striped garter snake, and the prairie falcon to a less than significant level. However, the removal of almost all the grassland present within the Golden Valley Ranch project site would eliminate habitat for the white-tailed kite and long-eared owl, thus resulting in a significant and unavoidable impact.

Change of the on-site habitats to urban uses would significantly impact undeveloped areas through air quality impacts, introduction of light and noise impacts, increased water consumption and treatment, and direct runoff onto existing properties. Although there is no way to determine direct impacts to specific elements on surrounding areas, mitigation measures have been proposed as general considerations to modify and enhance wildlife values. Although development of the Golden Valley Ranch project site would have the potential to degrade biological habitats within surrounding areas, implementation of the recommended mitigation measures as described in the certified EIR would reduce general biological impacts to a less than significant level.

Modified Project. Although the Fire Station 150 project site is already graded, development of the fire station in conjunction with the entire Golden Valley Ranch development has the potential to affect on-site habitats and sensitive species. No impacts beyond those identified in the certified EIR would occur with the addition of the proposed fire station. The Modified Project with Fire Station 150 would implement the recommended mitigation measures set forth in the certified EIR, as applicable. Therefore, the conclusions reached in the certified EIR also apply to the Modified Project with Fire Station 150.

4.4 Cultural Resources

Original Project. As discussed in Section 4.12, Cultural Resources, of the certified EIR, no significant impacts to known cultural resources would occur with project implementation.

However, mitigation was recommended as a precautionary measure to address accidental discovery of historical and prehistoric archaeological resources. With implementation of the recommend mitigation measures, impacts to cultural resources would be reduced to a less than significant level.

Modified Project. Similar to the Original Project, the Modified Project with Fire Station 150 would not affect the significance of known resources. However, the mitigation measures included in the certified EIR would also apply to the construction of Fire Station 150. With implementation of the prescribed mitigation, all impacts to unknown cultural resources associated with construction and operation of the fire station are within the scope of the certified EIR. Therefore, the conclusions reached in the certified EIR also apply to the Modified Project with Fire Station 150.

4.5 Geology and Soils

Original Project. As discussed in Section 4.1, Earth, of the certified EIR, the Golden Valley Ranch Project would involve substantial grading, which would substantially alter the topography of some portions of the site and surrounding area. While the Golden Valley Ranch site would be graded to accommodate the project's residential and commercial uses, it is not anticipated that the project would destroy, permanently cover, or materially or adversely modify any distinct and prominent geologic or topographic features. As the Golden Valley Ranch Project proposes modifications to a designated Primary ridgeline, potential conflicts with the Ridgeline Preservation and hillside Development Ordinance and Guidelines could occur from an aesthetic standpoint. However, from a geological standpoint, the Golden Valley Ranch Project would be consistent with the City Grading Ordinance and the Ridgeline Preservation and hillside Development Ordinance and Guidelines. Similar to development throughout Southern California, implementation of the project would result in exposure of people on-site to groundshaking and other seismic hazards, including liquefaction and lateral spreading. Therefore, the proposed project would be constructed in accordance with applicable provisions of the Uniform Building Code (UBC) and would not adversely affect adjacent properties as required by Section 111 of the Los Angeles County Building Code. Furthermore, project designs would comply with site preparation requirements identified in the geotechnical study prepared for the certified EIR. The certified EIR does include mitigation measures regarding site preparation requirements from the geotechnical study to ensure that seismic and landslide hazards are reduced to a less than significant level. With implementation of the mitigation measures and compliance with applicable design standards and regulations, potentially significant seismic and geologic hazards would be reduced to a less than significant level.

Modified Project. The Fire Station 150 project site is graded and development of the fire station would not destroy, permanently cover, or materially/adversely modify any distinct and prominent geologic or topographic features. The construction of Fire Station 150 would be

in conformance with all applicable seismic design standards and regulations, as described within the certified EIR. The Modified Project with Fire Station 150 would also implement all applicable recommended mitigation measures of the certified EIR to ensure that seismic, and landslide hazards are reduced to a less than significant level. As such, no significant impacts regarding geologic and seismic hazards would be generated by the fire station beyond those identified in the Original Project. As such, the impacts are within the scope of impacts identified in the certified EIR.

4.6 Hazards and Hazardous Materials

Original Project. Several technical studies were completed for the Golden Valley Ranch project site to address potential environmental hazards, including a Phase I Environmental Site Assessment. As discussed in Section 4.11, Risk of Upset/ Human Health and Safety, of the certified EIR, these technical studies determined that the potential for leaking underground storage tanks to adversely affect soil and groundwater beneath the project site would be low. However, mitigation is prescribed in order to reduce health and safety impacts resulting from the presence of former on-site oil wells. Furthermore, compliance with the Department of Oil and Gas (DOG) guidelines in the Project Site Review and Well Abandonment Procedure document to properly abandon all wells within the development area would be required prior to construction. With compliance to the DOG requirements, prescribed mitigation measures as described within the certified EIR, and adequate remediation, the existence of properly abandoned oil or gas wells would not result in significant impacts to human health and safety.

Modified Project. As described in the certified EIR, an environmental records review of the VISTA Information Solutions, Inc. database was conducted to identify the location of reported potential hazardous waste sites or landfills within the project site and surrounding area. The proposed Fire Station 150 site is graded and is located within the boundaries of the Golden Valley Ranch Project; however, the site was not identified on the VISTA Information Solutions, Inc. database report as containing any listed sites. Construction of Fire Station 150 would involve the use of potentially hazardous materials such as vehicle fuels, oils, paints, and transmission fluids. Operation of Fire Station 150 would involve the use of small quantities of potentially hazardous materials typical of those used at fire stations (i.e., oil and gasoline, cleaning solvents, pesticides for landscaping, etc.). In addition, the fire station would include above-ground storage facilities (or tanks) containing 750 gallons of diesel fuel for the emergency generator, 3,000 gallons of diesel fuel for the on-site apparatus, 750 gallons of unleaded gasoline, and 10 gallons (two 5-gallon containers) of gasoline for yard maintenance equipment. All hazardous materials used during construction and operation would be contained, stored, and used in accordance with applicable regulations and handled in accordance with manufacturer's specifications. In addition, permits to construct and operate the tanks would be obtained from the SCAQMD, as necessary. Therefore, risks associated with the use of these materials would be reduced to less than significant levels. Further, the Modified Project with Fire Station 150 would

also implement the recommended mitigation measures and guidelines included in the certified EIR to ensure that significant impacts to human health and safety do not occur. Overall, similar to the Original Project, impacts regarding hazardous materials associated with construction and operation of the fire station would be less than significant and within the scope of impacts evaluated in the certified EIR.

4.7 Hydrology

Original Project. The Golden Valley Ranch project site encompasses parts of the Santa Clara River and Placerita Creek. Although a majority of the streams on-site are intermittent, watersheds are susceptible to major debris flow from slope erosion during heavy rainfall. As such, soil surfaces are subject to erosion and watersheds downstream are subject to pollution from particulate matter. Development of the Golden Valley Ranch Project would have beneficial surface water effects regarding particulate matters as project implementation would involve the removal and relocation of bare soils, and the grading of hillsides on steeper slopes. However, construction impacts could potentially contribute to water pollution with the transport of paving materials, heavy equipment fuels, lubricants and solvents, and other chemicals during periods of rainfall. Furthermore, development of the Golden Valley Ranch site with residential and commercial uses would result in more impermeable surfaces, thus increasing the potential for runoff with urban pollutants. Landscape chemicals including fertilizers, pesticides, and herbicides could be washed into local drainage systems including the Santa Clara River and Placerita Creek from irrigation and during storm events. As addressed in the certified EIR, construction and operational impacts would be reduced to a less than significant level with the implementation of the proposed mitigation measures and compliance with the National Pollutant Discharge Elimination System (NPDES) permit (Order No. 01-182). The NPDES permit, proposed mitigation measures, and compliance with other applicable regulatory requirements regarding surface water quality would ensure that storm water is treated on-site to reduce the level of pollutants to the maximum extent practicable. Thus, potential impacts associated with hydrology and water quality would be less than significant with implementation of the prescribed mitigation.

Modified Project. The proposed Fire Station 150 would be located within Cluster 1 constructed as part of the Original Project and would also be subject to the applicable water quality standards and requirements described within the certified EIR. Similar to the Original Project, the Modified Project with Fire Station 150 would result in beneficial surface water quality effects regarding decreased particulate matter as the hillsides surrounding the project site would be terraced and loose soils would either be removed or compacted. The fire station would also implement the applicable regulatory requirements (e.g. compliance with NPDES requirements) and mitigation measures prescribed in the certified EIR, as applicable. Therefore, impacts associated with construction and operation of the fire station would be less than significant and impacts would be within the scope of impacts identified in the certified EIR.

4.8 Land Use/ Population

Original Project. As discussed in detail in Section 4.7, Land Use/ Population, of the certified EIR, the Golden Valley Ranch Project would not result in land use compatibility conflicts with neighboring uses and would be consistent with regional population forecasts for the City of Santa Clarita.

The Golden Valley Ranch Project would generally be consistent with relevant goals and policies described in the City Land Use Element. Mitigation measures contained in Sections 4.4, Biology, 4.6, Aesthetics/Light and Glare, 4.9, Public Services, 4.10, Utilities, and 4.12, Cultural Resources, would be implemented so that the project would be consistent with goals and policies established by the Land Use Element. However, project development would potentially be inconsistent with policies regarding preservation and protection of significant ridgelines, oak trees, vernal pools, and wildlife migration corridors. These inconsistencies cannot be mitigated as development would still occur on ridgelines and in sensitive wildlife areas.

The project would also be generally consistent with the Southern California Association of Governments (SCAG) regional mobility policies; however, it is potentially inconsistent with the SCAG policies relating to preservation of biological and ecological resources.

Modified Project. The Modified Project with Fire Station 150 would not alter any of the other land uses that were previously identified and addressed in the certified EIR. The 1.96-acre fire station would increase the level of public services available within the City and would be "first in" for emergency calls. The Modified Project would not contribute substantial population growth to the City and as such, would be consistent with population analysis contained in the certified EIR.

As part of the original Golden Valley Ranch Project, a General Plan Amendment was required to change the land use designation from RE (Residential Estate) to RS (Residential Suburban) and CC (Community Commercial). Also, an approval to prezone the site as RS and CC was required. Fire Station 150 would be an allowable use on the project site with the approved General Plan Amendment and prezoning of the site as part of the Original Project. Similar to the Original Project, the Modified Project would be compatible with the overall goals and policies described within the City of Santa Clarita Land Use Element.

Additionally, the Modified Project with Fire Station 150 would be developed on an already graded area. Thus, the development of Fire Station 150 would not alter any land-use patterns in the area. Therefore, the Modified Project would not disrupt, divide or isolate any existing neighborhoods, communities, or land uses. Overall, land use impacts of the Modified Project with Fire Station 150 would be less than significant and such impacts would be within the scope of impact identified in the certified EIR.

4.9 Noise

Original Project. As discussed in detail in Section 4.5, Noise, of the certified EIR, noise levels from on-site construction activity would exceed the construction-period noise significance criterion established by the City of Santa Clarita. Noise impacts would be significant if construction levels exceed 65 dBA in residential areas under the City Noise Ordinance. The noisiest activities associated with construction would typically occur during the site preparation phase due to use of construction equipment including trucks, bulldozers, graders, and scrapers. It was determined that noise levels at Fair Oaks Ranch (the closest residential community) and Golden Oak Ranch, could exceed 65 dBA during some periods of construction. However, the Golden Valley Ranch project site would be subject to the City Noise Ordinance and with the implementation of the recommended mitigation measures, noise associated with construction activities would be reduced to acceptable levels and impacts would be considered less than significant.

During the operational phase, it is anticipated that future on-site traffic would increase due to project development. It is estimated that the roadway traffic noise level would be increased to 67.4 dBA along the north side of Golden Valley Road. While this would exceed the threshold of 65 dBA, this noise level is considered acceptable under the City Noise Ordinance for commercial uses planned along the Golden Valley Road. A majority of noise generated from project-related traffic would be shielded from the Golden Oak Ranch by intervening topography, but could still pose as a potentially significant impact due to a short segment of the proposed extension of the Golden Valley Road that has a direct line-of-sight to portions of the Ranch. However, implementation of the proposed mitigation measures to construct an earthern berm along the south side of the road segment of the Golden Valley Ranch project site would reduce traffic-related noise impacts to a less than significant level.

Modified Project. Currently, the nearest residential sensitive receptor (i.e., residential, schools, hospital, etc.) to the Fire Station 150 project site are single-family residential use located over approximately 700 feet from the site to the north of SR-14. However, there would be future residential uses within Golden Valley Ranch that would be located approximately 700 feet east of the site. These single-family residences would be separated from the site by intervening topography and are considered the nearest residential sensitive receptors to the site. In addition, Golden Oak Ranch, located approximately 250 feet south of the site and separated from the site by intervening topography, is also considered a sensitive receptor. The following sections provide descriptions of applicable noise thresholds pertaining to construction and operation of Fire Station 150.

a. Applicable Noise Standards

(1) City of Santa Clarita Noise Ordinance

The City of Santa Clarita Municipal Code (SCMC), Title 11, Chapter 11.44, provides exterior noise limits and specific noise restrictions, exemptions, variances for exterior noise sources. In addition, warning devices on emergency vehicles and horns, burglar and fire alarms, or other warning devices expressly authorized by law are not included in the "Sound-amplifying equipment" per SCMC 11.44.0.020. Therefore, noise from a fire engine siren and public address systems (use for emergency announcement) are not limited by the City's Noise Limits as it is necessary for the protection of public safety. The applicable requirements to the Fire Station 150 project are discussed below.

(a) Section 11.44.040 – Noise Limits

City of Santa Clarita exterior noise limits for the various categories of land uses are provided in Table 2. In accordance with the City noise limits, *"It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designed region, in excess of the levels indicated in Table 2."* Furthermore, the standard states that *"At the boundary line between a resident property and a commercial and manufacturing property, the noise level of the quieter zone shall be used."*

(b) Section 11.44.070 Special Noise Sources – Machinery, Fans and Other Mechanical Devices

"Any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Table 2 at any property line, or, if a condominium or rental units, within any condominium unit or rental within the complex, shall be a violation."

(c) Section 11.44.080 Special Noise Sources – Construction and Building

"No person shall engage in any construction work which requires a building permit from the City on sites within 300 feet of a residentially zone property except between the hours of 7 A.M. to 7 P.M., Monday through Friday, and 8 A.M. to 6 P.M. on Saturday. Further, no work shall be performed on the following

Table 2

City of Santa Clarita Noise Limits

Region	Time	Exterior Sound Level, dB
Residential	Day	65
Residential	Night	55
Commercial and Manufacturing	Day	80
Commercial and Manufacturing	Night	70

[a] *Corrections to Noise Limits. The numerical limits given here shall be adjusted by the following corrections, where the following noise conditions exist:*

Noise Condition	*Correction (in dB)*
1. Repetitive impulsive noise	*-5*
2. Steady whine, screech or hum	*-5*

The following corrections apply to day only:

1. Noise occurring more than 5 but less than 15 minutes per hour	*+5*
2. Noise occurring more than 1 but less than 5 minutes per hour	*+10*
3. Noise occurring less than 1 minute per hour	*+20*

Source: SCMC, Section 11.44.040, Noise Limits.

public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day."

(2) County of Los Angeles Noise Ordinance

Chapter 12.08 of the County of Los Angeles Municipal Code (LACMC) provides exemptions for noise sources within the unincorporated areas within the county. Specifically, noise from fire engine sirens and the public address systems (used for emergency announcement) is exempt from the County's Exterior Noise Standard as it is necessary for the protection of public safety, per LACMC Section 12.08.570.

b. Existing Ambient Sound Levels

The existing ambient sound levels at the nearest future residence on Oak Crest Drive, east of the proposed Fire Station, were measured on October 27, 2008, between 5 P.M. and 6 P.M. Existing ambient sound levels in the vicinity of the project site is mostly controlled by the auto traffic on Golden Valley Road. The noise measurement was conducted using a Larson Davis Model 820, a Type 1 sound level meter. The sound level meter was mounted on a tripod at a height of 5 feet above the local grade elevation and was set up to record sound level for a fifteen minute interval. The measured sound level at the future residential community was 53 dBA (Leq). The existing ambient sound level at the residential community is within the City's noise limit of 65 dBA for daytime hours.

c. Significance Thresholds

The following thresholds of significance were developed to determine noise impacts during construction and operation of the fire station.

(1) Construction

Currently, the City of Santa Clarita Noise Ordinance does not provide quantitative standards or significance thresholds for assessing construction noise impacts. However, the City's Noise Ordinance specifies hour limits for construction activities within 300 feet of a residential zone. Therefore, as a referenced threshold, the noise limits shown in Table 2 have been used to evaluate noise impacts from construction activities. Noise during construction would have a significant impact if:

- Construction activities would exceed 65 dBA at single-family residential uses between the hours of 7:00 A.M. and 7:00 P.M. Monday through Friday, and 8 A.M. to 6 P.M. on Saturday.

(2) Operation

Project related noise would have a significant impact if:

- Project on-site stationary sources exceed 55 dBA during nighttime and 65 dBA during the daytime at any residential use.

d. Construction Impacts

Specific to the proposed Fire Station 150 site, the noisiest construction phase would be during site grading period. As such, the following analyzes construction activities during the grading period of the Fire Station 150 site to assess worse-case noise impacts.

Typical noise-generating equipment that would likely be used during grading/excavation would include equipment such as graders, rollers, water truck, etc. Maximum noise levels from these individual pieces of equipment range from approximately 79 to 85 dBA at a 50 foot distance, based on measured noise data conducted by the Federal Highway Administration (FHWA Roadway Construction Noise Model User's Guide, 2006). These maximum noise levels would occur when equipment is operating under full power conditions. To more accurately characterize construction noise levels, the average noise level is calculated based on the quantity, type, and usage factors for each type of equipment that would be used. Using the industry standard sound attenuation rate of 6 dBA per doubling of distance for point sources (e.g.,

construction equipment), the construction noise levels were estimated at the nearest residential receptor. The nearest residential receptor is located approximately 700 feet east of the fire station project site. Based on this distance, it is estimated that noise levels at the nearest residence during construction of the building would be up to approximately 52 dBA, which would not exceed City's noise limit of 65 dBA, during daytime hours. In addition, construction noise levels at Golden Oak Ranch are anticipated to be up to approximately 61 dBA, which would also not exceed the City's noise limit of 65 dBA, during daytime hours. Thus, it is anticipated that noise generated during construction of the Fire Station 150 project would result in a less than significant noise impact at the nearest residential use.

As stated above for the Original Project, the certified EIR concluded that construction noise activities would be potentially significant, however, mitigation measures were prescribed that would reduced such impacts to a less than significant level. Since construction of the proposed fire station would result in less than significant noise impacts, no new impacts would occur beyond what was previously analyzed in the certified EIR. Overall, construction noise impacts of the Modified Project with Fire Station 150 would be less than significant and such impacts would be within the scope of impact identified in the certified EIR.

e. Operational Impacts

(1) Traffic

Operation of the Modified Project with Fire Station 150 would result in an increase of approximately 35 daily trips from emergency (up to five responses per day) and non-emergency responses including staff and visitor trips (less than 30 trips per day). The increase in traffic with the Modified Project represents less than a one-percent increase when compared with the Original Project. Thus, the incremental increase in traffic related noise impacts under the Modified Project would be less than 0.1 dBA (a negligible increase), which is well below the 1.5 dBA significance threshold established in the certified EIR. As such, similar to the Original Project, the Modified Project would result in less than significant roadway noise impacts.

(2) Operational Equipment

Noise generating equipment associated with the typical operation of the fire station would include heating, ventilating, and air conditioning (HVAC) equipment (i.e., outdoor condenser fans), an external public address system, and an emergency power generator (maximum power of 230 KW). The following provides a discussion of impacts associated with operational equipment at the fire station.

(a) Building HVAC Equipment

It is anticipated that roof-mounted equipment would be used and shielded from the public view. A typical outdoor condenser fan (air conditioning equipment) generates a noise level of approximately 75 dBA at 10 feet. The nearest residential use would be approximately 700 feet from the specific location of the HVAC equipment. It is estimated that the HVAC equipment noise level at the nearest residential use would be 28 dBA, which is well below the City's limit of 55 dBA (nighttime hours). In addition, noise levels at Golden Oak Ranch are anticipated to be 37 dBA, which would also be below the City's limit of 55 dBA (nighttime hours). Thus, noise impacts from building HVAC equipment are concluded to be less than significant.

(b) Public Address System

The fire station would have an outdoor public address (PA) system that would only be used on an intermittent basis during the daytime hours, between 8:00 A.M. to 5:00 P.M., to broadcast emergency calls. According to the fire department, it is estimated that the numbers of emergency calls would be a maximum of approximately five calls per day (24 hours). As such, noise from the PA system would be intermittent and would only occur for a few minutes per day. Furthermore, consistent with the Fire District policies, the PA system volume would be limited to the extent necessary for fire personnel to hear emergency announcements, so as to minimize off-site noise from the PA system. As discussed above, the use of the PA system for emergency basis is excluded from the City's and County's Noise Ordinances. Therefore, with compliance to the Fire District policies regarding use of the PA system and the exemption from the City's and County's noise ordinances, noise impacts from PA system are concluded to be less than significant.

(c) Generator

The generator would be located at the eastern boundary of Fire Station 150 site, which would be shielded from noise sensitive receptors by adjacent land topography. The generator would only be used during power outages; however, it would be tested for 30 minutes each week, during daytime hours, to ensure the operational readiness of the generator. The generator technical specification specifies a noise level of 82 dBA at a distance of 10 feet. The estimated generator noise level at the nearest residential use (700 feet east of the site) would be 35 dBA, which is well below the allowable 65 dBA City's Noise Limits for residential uses during daytime hours. In addition, noise levels at Golden Oak Ranch are anticipated to be 44 dBA, which would also be below the below the City's limit of 65 dBA (nighttime hours). Therefore, the emergency generator noise level would not pose a significant noise impact.

(d) Emergency Equipment

As part of the operation of the fire station and in compliance with Fire District policies, the Fire Department would use discretion when activating the fire engine siren when responding to calls within the surrounding community. Fire Department policy states that intermittent siren use during "Code 3" responses is permissible provided it is operated within at least 300 feet of an intersection where traffic control devices (signal lights, stop signs, ect.) are present. These practices would be implemented when the station is in operation. Fire Station 150 is anticipated to receive a maximum of approximately five emergency calls per day. Sirens would be used as necessary to warn pedestrians and motorists. Based on manufacturer's noise data (Federal Signal Corporation, Q2B Electro-Mechanical Siren), the siren would generate noise levels up to 123 dBA at a distance of 10 feet. When used, adjacent residences (700 feet to the east) may experience noise levels up to 76 dBA. Noise levels at Gold Oak Ranch may be up to approximately 85 dBA. Such noise conditions are unavoidable with regards to emergency response. However, siren noise used in emergency circumstances is exempt from the City and County noise ordinances, which were developed to protect the public. Therefore, with compliance to the Fire District policies regarding use of sirens and the exemption of emergency sirens from the City's and County's noise ordinances, noise impacts from siren noise are concluded to be less than significant.

Therefore, noise levels associated with operations under the Modified Project with Fire Station 150 are not expected to exceed significance thresholds and would not change the overall characteristics of the Original Project. As with the Original Project, such impacts would be less than significant. Thus, impacts associated with operation of the Modified Project with Fire Station 150 are within the scope of impacts evaluated in the certified EIR.

4.10 Traffic and Circulation

Original Project. The certified EIR traffic analysis evaluated traffic impacts during an interim year scenario and at full buildout of the Golden Valley Ranch Project. The Traffic analysis concluded that two study area intersections would be significantly impacted during the interim year scenario and one intersection would be significantly impacted at build out of the project. However, the certified EIR prescribed mitigation measures that would reduce all intersection impacts during both the interim year and build out scenario to a less than significant level. The certified EIR also evaluated the potential increase in traffic volumes through residential areas. Mitigation was prescribed to reduce these potentially significant impacts to a less than significant level. Furthermore, the Golden Valley Ranch Project would not increase freeway main traffic volumes by 150 trips for freeway links experiencing, or expected to degrade to LOS F. As such, the proposed project would not have significant Los Angeles County Congestion Management Program (CMP) mainline traffic impacts.

Modified Project. Since the Fire Station 150 site has previously been graded for development, it is expected that the number of worker and daily hauling trips associated with the fire station's construction would be substantially reduced compared to other on-site construction activities within Golden Valley Ranch given the limited intensity of development. In addition, construction of the 1.96-acre Fire Station 150 would represent less than one percent of the 1,259-acres utilized by the Original Project. Development of Fire Station 150 would not affect traffic along Golden Valley Road as construction impacts would generally be relegated to the project site. Furthermore, a traffic signal has been installed at the fire station emergency egress driveway with station-controlled preemption for emergency and non-emergency responses. With regard to operational traffic, Fire Station 150 would generate approximately 35 daily trips from emergency (up to five responses per day) and non-emergency responses including staff and visitor trips (less than 30 trips per day). The small number of trips would not be sufficient to substantially increase peak traffic volumes associated with Golden Valley Ranch. Thus, impacts associated with construction and operation of the Modified Project with Fire Station 150 are within the scope of traffic impacts evaluated in the certified EIR.

4.11 Public Services - Fire

Original Project. The City of Santa Clarita receives fire protection and emergency medical service from the Los Angeles County Fire Department (LACFD). In the event of an emergency at the Golden Valley Ranch project site, Fire Station 107, located at 18239 West Soledad Canyon Road, would be dispatched first to the incident. Fire Station 107 currently has an emergency response time of 11 minutes, which exceeds the LACFD goal of four minutes or less. Development of the project would increase the number of residents and commercial development within the area. Project development would further increase the demand for fire protection services and new facilities and equipment would be necessary to provide adequate levels of service. However, with the implementation of the prescribed mitigation measures described in the certified EIR, including the payment of in-lieu fees and the construction of a new fire station, such impacts would be reduced to a less than significant level.

Furthermore, the Golden Valley Ranch project site is within a Very High Fire Hazard Severity Zone as designated by the Los Angeles County Fire Department. Several portions of the project site would be adjacent to open space areas, thus making them more susceptible to potential wildland fires. The LACFD requires construction to comply with all applicable building code requirements for Very High Fire Hazard Severity Zones. Mitigation measures have been prescribed to reduce the risk of wildfire hazards including development of a Fuel Modification Plan. As such, implementation of the County Fire Building Code and Fuel Modification Plan would reduce wildfire hazards to a less than significant level.

Modified Project. The Modified Project would construct Fire Station 150 at 19190 Golden Valley Road. The fire station is the prescribed mitigation for the Original Project.

As such, the fire station would provide for improved levels of fire protection, emergency medical, and other life safety services to the communities within the Golden Valley Ranch and throughout the department's jurisdiction. Fire Station 150 aims to arrive on the scene of an emergency call within five minutes from the time of dispatch. As such, the Modified Project would result in positive impacts regarding fire protection services.

4.11 Public Services - Police

Original Project. The Golden Valley Ranch Project would increase the City population by approximately 2,583 residents which would result in an increased demand for police services. However, the project would generate additional property and sales tax revenues, which would be used in part to fund current staffing levels within the County and at the Santa Clarita Sheriff's Station. Therefore, the project would not result in a significant impact on police services as the available revenues are assumed to fund needed increases in Sheriff's Department staffing.

Modified Project. The Modified Project would construct Fire Station 150 at 19190 Golden Valley Road. The construction of Fire Station 150 would not impact police protection services. As such, no new impacts beyond what was identified in the certified EIR would occur. Thus, impacts regarding police protection services associated with the Modified Project with Fire Station 150 would be within the scope of impacts evaluated in the certified EIR.

4.11 Public Services: Schools

Original Project. The residential uses of the Golden Valley Ranch Project would generate new students and that would increase the demand on schools serving the project site. However, the project would include new school facilities and pay development fees pursuant to the prescribed mitigation to ensure that school impacts are reduced to a less than significant level.

Modified Project. The addition of Fire Station 150 would not generate new students to schools in the area. As such, no impacts to school services would occur. Thus, impacts regarding school services associated with the Modified Project with Fire Station 150 would be within the scope of impacts evaluated in the certified EIR.

4.11 Public Services - Recreation

Original Project. The addition of 2,583 new residents to the Golden Valley Ranch project site would increase the demand recreational resources which would result in potentially significant impacts regarding recreational facilities. However, mitigation has been prescribed

that requires the project to include develop recreational facilities that would reduce potentially significant impacts to a less than significant level.

Modified Project. The development of Fire Station 150 would not result in an increase of residents to the City that would utilize parks and recreational facilities. As such, no impacts to recreational facilities would occur. Thus, impacts regarding recreation services associated with the Modified Project with Fire Station 150 would be within the scope of impacts evaluated in the certified EIR.

4.12 Public Utilities – Water

Original Project. Water consumption for the Golden Valley Ranch Project is expected to be approximately 847 acre-feet per year. Water would be provided by the Santa Clarita Water Company (SCWC) and has a current excess of 21,100 AFY of water. As a result, the project's water demand would represent approximately four percent of the available water supply. The SCWC would be able to provide adequate supplies to serve the water demand generated by the proposed project given its available water supply. As such, impacts to water supplies would be less than significant and no mitigations would be required.

Modified Project. Similar to the Original Project, the Modified Project with Fire Station 150 is anticipated to utilize water from the SCWC. Since the water demand generated by the Modified Project would represent a only a nominal increase in the water demand generated by the Original Project, the available water supply from the SCWC would be adequate to accommodate the Modified Project. In addition, Fire Station 150 would comply with applicable water conservation standards/ordinances applicable to development of a fire station on the site. As such, impacts on water supply associated with the Modified Project with Fire Station 150 would be less than significant and such impacts would be within the scope of impacts identified in the certified EIR.

4.12 Public Utilities - Wastewater

Original Project. Buildout of the Golden Valley Ranch Project would generate approximately 0.43 million gallons per day (gpd) of wastewater. The project's residential, commercial, educational, and recreational land uses would generate an estimated 425,910 gpd. Wastewater generated by the project would be transported to the Saugus and Valencia water reclamation plants, which have a combined capacity of 2.6 mgd. The project's 425,910 gpd of wastewater would represent 17 percent of the currently unused capacity at the two water reclamation plants. Although no mitigation is required, the project would be required to pay the applicable amendment fees to be annexed into District No. 26 so that the Los Angeles County Sanitation District can provide sewage treatment services. Also, there would be adequate

infrastructure available to serve the Golden Valley Ranch project site and impacts to wastewater treatment would be less than significant.

Modified Project. Fire Station 150 is anticipated to nominally increase the amount of wastewater generated compared to the Original Project. Similar to the Original Project, wastewater would be treated by the Saugus and Valencia water reclamation plants and are not expected to significantly impact wastewater treatment services. The Modified Project with Fire Station 150 would still be required to pay applicable amendment fees for sewage treatment services by the Los Angeles County Sanitation District. Therefore, impacts regarding wastewater associated with the Modified Project with Fire Station 150 would be less than significant and such impacts are within the scope of impacts identified in the certified EIR.

5. CONCLUSION

As demonstrated by the comparative analysis above, the proposed modifications to the original Golden Valley Ranch Project to include Fire Station 150 would not result in any new significant impacts or a substantial increase in the severity of any previously identified impacts identified in the certified EIR. Rather, all impacts are within the scope of impacts identified within the certified EIR.

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APPENDIX A
AIR QUALITY DATA

PROPOSED FIRE STATION 150

EIR Addendum
Appendix A

Air Quality Assessment Files

Provided by PCR Services Corporation

September 2009

Appendix A-1

- SCAQMD Rule 403 (Fugitive Dust) Control Requirements

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

Appendix A-3

- Construction Emissions Inventory
  - URBEMIS2007 Output Files

LAFD 150
Urbemis Construction Emissions

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: V:\AQNOISE DIVISION\Active Projects\LACOFD\150\LAFD150.urb924

Project Name: Firestation 150

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2009-10/30/2009	2.82	25.48	11.23	0.01	5.45	1.25	6.70	1.14	1.15	2.29	2,681.57
Mass Grading 10/01/2009-	2.82	25.48	11.23	0.01	5.45	1.25	6.70	1.14	1.15	2.29	2,681.57
Mass Grading Dust	0.00	0.00	0.00	0.00	5.43	0.00	5.43	1.13	0.00	1.13	0.00
Mass Grading Off Road Diesel	2.46	21.30	8.41	0.00	0.00	1.07	1.07	0.00	0.98	0.98	2,057.24
Mass Grading On Road Diesel	0.32	4.10	1.66	0.00	0.02	0.18	0.19	0.01	0.16	0.17	499.94
Mass Grading Worker Trips	0.04	0.07	1.16	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 11/2/2009-11/30/2009	0.87	5.96	4.16	0.00	0.01	0.46	0.47	0.00	0.42	0.43	674.17
Fine Grading 11/01/2009-	0.87	5.96	4.16	0.00	0.01	0.46	0.47	0.00	0.42	0.43	674.17
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.74	4.53	2.73	0.00	0.00	0.40	0.40	0.00	0.36	0.36	412.30
Fine Grading On Road Diesel	0.11	1.38	0.56	0.00	0.01	0.06	0.07	0.00	0.06	0.06	168.57
Fine Grading Worker Trips	0.03	0.05	0.87	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.29
Time Slice 12/1/2009-12/31/2009	2.86	21.94	10.53	0.00	0.00	1.40	1.40	0.00	1.28	1.28	2,010.75
Building 12/01/2009-07/31/2010	2.86	21.94	10.53	0.00	0.00	1.40	1.40	0.00	1.28	1.28	2,010.75
Building Off Road Diesel	2.86	21.91	10.43	0.00	0.00	1.39	1.39	0.00	1.28	1.28	1,998.58
Building Vendor Trips	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.70
Building Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.46
Time Slice 1/1/2010-6/30/2010 Active	2.69	20.62	10.29	0.00	0.00	1.31	1.31	0.00	1.20	1.20	2,010.74
Building 12/01/2009-07/31/2010	2.69	20.62	10.29	0.00	0.00	1.31	1.31	0.00	1.20	1.20	2,010.74
Building Off Road Diesel	2.68	20.59	10.21	0.00	0.00	1.31	1.31	0.00	1.20	1.20	1,998.58
Building Vendor Trips	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.70
Building Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.46
Time Slice 7/1/2010-7/30/2010 Active	4.56	28.11	14.95	0.00	0.00	1.96	1.96	0.00	1.80	1.80	2,643.58
Asphalt 07/01/2010-07/31/2010	1.27	7.48	4.63	0.00	0.00	0.65	0.66	0.00	0.60	0.60	629.40
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.22	7.35	4.05	0.00	0.00	0.65	0.65	0.00	0.59	0.59	554.09
Paving On Road Diesel	0.01	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.14
Paving Worker Trips	0.02	0.03	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.17
Building 12/01/2009-07/31/2010	2.69	20.62	10.29	0.00	0.00	1.31	1.31	0.00	1.20	1.20	2,010.74
Building Off Road Diesel	2.68	20.59	10.21	0.00	0.00	1.31	1.31	0.00	1.20	1.20	1,998.58
Building Vendor Trips	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.70
Building Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.46
Coating 07/01/2010-07/31/2010	0.60	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.43
Architectural Coating	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.43

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 10/1/2009 - 10/31/2009 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:
PM10: 55% PM25: 55%

LAFD 150
Urbemis Construction Emissions

Phase Assumptions

Phase: Fine Grading 11/1/2009 - 11/30/2009 - Default Fine Site Grading/Excavation Description
Total Acres Disturbed: 0
Maximum Daily Acreage Disturbed: 0
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 39.77
Off-Road Equipment:
1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Mass Grading 10/1/2009 - 10/31/2009 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 1.93
Maximum Daily Acreage Disturbed: 0.48
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 117.95
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2010 - 7/31/2010 - Default Paving Description
Acres to be Paved: 0.19
Off-Road Equipment:
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 12/1/2009 - 7/31/2010 - Default Building Construction Description
Off-Road Equipment:
1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2010 - 7/31/2010 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

LAFD 150
Construction Annual CO2 Emissions
Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: V:\AQNOISE DIVISION\Active Projects\LACOFD\150\LAFD150.urb924

Project Name: Firestation 150

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2009 TOTALS (tons/year unmitigated)	59.70
2009 TOTALS (tons/year mitigated)	59.70
Percent Reduction	0.00
2010 TOTALS (tons/year unmitigated)	158.77
2010 TOTALS (tons/year mitigated)	158.77
Percent Reduction	0.00

AREA SOURCE EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	3.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	92.37

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	96.18

Appendix A-3

- Operation Emissions Inventory
  - Regional Operation Emissions
    - Regional Emission Summary Sheets
    - Stationary Emission Summary Sheets
    - Fire Truck Emissions
    - URBEMIS2007 Output Files

LACOFD- Fire Station 150

Regional Operations Emissions Calculations

Fire Station 150

Regional Emission Calculations (lbs/day)

		VOC	NOx	CO	SO2	PM10	PM2.5
Project							
	Mobile (non-fire trucks)	0	1	5	0	1	0
	Area	0	0	0	0	0	0
	Stationary	1	1	0	0	0	0
	Fire Trucks	1	5	2	0	0	0
	Total Project	**2**	**7**	**8**	**0**	**1**	**0**
	SCAQMD Significance Threshold	55	55	550	150	150	55
	Difference	**(54)**	**(53)**	**(544)**	**(150)**	**(149)**	**(55)**
	Significant?	**No**	**No**	**No**	**No**	**No**	**No**

LACOFD- Fire Station 150

Electricity Usage

Electricity Usage

Land Use	1,000 Sqft	Electricity Usage Rate [a] (kWh\sq.ft\yr)	Total Electricity Usage (KWh\year)	(MWh\Day)	CO	ROC	NOx	PM10	SOx	CO2	CH4	NO2
					Emission Factors (lbs/MWh) [b]							
					0.2	0.01	1.15	0.04	0.12	804.54	0.0067	0.0037
Project												
Fire House/ Station	84.1	5,627	473,025	1.296	0.259	0.013	1.490	0.052	0.156	1042.652	0.009	0.005
Total Project			**473,025**	**1.296**	**0.26**	**0.01**	**1.49**	**0.05**	**0.16**	**1,042.65**	**0.01**	**0.01**
Net Emissions From Electricity Usage					**0.26**	**0.01**	**1.49**	**0.05**	**0.16**	**1042.65**	**0.01**	**0.01**

Summary of Stationary Emissions

	CO	ROC	NOx	PM10	SOx	PM2.5
TANK	0.00	0.70	0.00	0.00	0.00	0.00
Total Existing Emissions (lbs/day)	0.00	0.00	0.00	0.00	0.00	0.00
Total Project Emissions (lbs/day)	0.26	0.01	1.49	0.05	0.16	0.05
Total Net Emissions (lbs/day)	**0.26**	**0.71**	**1.49**	**0.05**	**0.16**	**0.00**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

[b] Emission Factors from Table A9-11-B, CEQA Air Quality Handbook, SCAQMD, 1993.

Operational On-Road Fire Station Equipment Emissions

Permanent Fire Station Apparatus

Scenario Year: 2010 -- Model Years: 1965 to 2010	
HHDT-DSL (grams/mile)	
VOC	3.82
CO	12.86
NO_X	24.92
SO_2	0.02
PM_{10}	0.97
$PM_{2.5}$	0.90

Scenario Year: 2010 -- Model Years: 1965 to 2010	
HHDT-DSL (grams/idling hour)	
VOC	3.8215
CO	12.86
NO_X	24.92
SO_2	0.02
PM_{10}	0.97
$PM_{2.5}$	0.90

Worst-Case Day				
Classification	**# Round Trips**	**Miles/Trip**	**Miles/Day**	**Hours Idling**
HHDV	8	10	80	2

Pollutant	**Emissions**	
	grams/day	**lbs/day**
VOC	313	0.69
CO	1,054	2.32
NO_X	2,043	4.50
SO_2	2	0.00
PM_{10}	80	0.18
$PM_{2.5}$	73	0.16

Assumptions:
4 estimated emergency responses/day
1 estimated non-emergency responses/day
3 estimated business trips/day
5 miles one-way/trip
2 hours max. idling/day

LAFD 150
Urbemis Operations- Summer Emissions
Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: V:\AQNOISE DIVISION\Active Projects\LACOFD\150\LAFD150.urb924

Project Name: Firestation 150

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.02	0.01	0.00	0.00	0.00	20.79
Hearth							
Landscape	0.01	0.00	0.04	0.00	0.00	0.00	0.07
Consumer Products	0.05						
Architectural Coatings	0.00						
TOTALS (lbs/day, unmitigated)	0.06	0.02	0.05	0.00	0.00	0.00	20.86

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.40	0.58	5.30	0.01	0.87	0.17	522.46
TOTALS (lbs/day, unmitigated)	0.40	0.58	5.30	0.01	0.87	0.17	522.46

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	0.33	50.00	dwelling units	1.00	50.00	505.14
					50.00	505.14

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2

Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

LAFD 150
Urbemis Operation- Winter Emissions
Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: V:\AQNOISE DIVISION\Active Projects\LACOFD\150\LAFD150.urb924

Project Name: Firestation 150

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.02	0.01	0.00	0.00	0.00	20.79
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.05						
Architectural Coatings	0.00						
TOTALS (lbs/day, unmitigated)	0.05	0.02	0.01	0.00	0.00	0.00	20.79

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	0.45	0.70	5.06	0.00	0.87	0.17	473.47
TOTALS (lbs/day, unmitigated)	0.45	0.70	5.06	0.00	0.87	0.17	473.47

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	0.33	50.00	dwelling units	1.00	50.00	505.14
					50.00	505.14

LAFD 150
Urbemis Operation- Winter Emissions

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2
Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Appendix A-4

- Greenhouse Gas Emissions
  - Construction-related GHG emissions
  - Operations GHG Analysis

CO_2e[d] (Metric Tons)			
Emission Source	**2009**	**2010**	**Total**
CO_2 Emissions	60	159	218
CH_4 Emissions	0	0	1
N_2O Emissions	0	0	1
CO_2e Emissions	**60**	**160**	220
2004 Statewide Total[c]	479,740,000	479,740,000	479,740,000
Net Increase as Percentage of 2004 Statewide Inventory	**0.000013%**	**0.000033%**	**0.000046%**

[a] *Mobile source values were derived using EMFAC2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

[b] *On site construction equipment values were derived using OFFROAD2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

c Statewide totals were derived from the CARB Draft California GHG Inventory.

[d] *All CO_2E factors were derived using the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

Source: PCR Services Corporation, 2009.

Fire Station 150
Greenhouse Gas Analysis

Emission Source	CO_2E[e] (Metric Tons)
Project	
Construction	220
Construction (amortized)	7
On-road Vehicles[a]	104
Electricity[b]	3
Water Conveyance	2
Natural gas[c]	2
Back-up Generator	28
Fire Trucks	72
Total	**218**
Net Increase	
Total	218
2004 Statewide Total[d]	479,740,000
Net Increase as Percentage of 2004 Statewide Inventory	**0.000045%**

[a] *Mobile source values were derived using EMFAC2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

[b] *Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993. Water conveyance energy rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005*

[c] *Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.*

[d] *Statewide Greenhouse Gas Emissions Inventory: http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm*

[e] *All CO2e factors were derived using the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008*

Sources: PCR Services Corporation, 2009.

On Road Mobile Source

Land Use	Daily VMT	Annual VMT[a]
Project		
Residential (DU)	505	184,376
Total Project	**505**	**184,376.10**
Net Project	**505**	**184,376.10**

[a] Multiplied Daily VMT by 365 to get Annual VMT
[b] Factors dervied from URBEMIS2007

Los Angeles County CO_2 2010 AVG Gram/Mile[c]	**548.0511429**
Los Angeles County CH_4 2010 AVG Gram/Mile[c]	**0.036857143**
Los Angeles County N_2O 2010 AVG Gram/Mile[d]	**0.05**

GHG	Gram/Mile	Grams	metric tons	CO_2E (Metric Tons)	
Existing					
CO_2	548.0511429	-	-	-	
CH_4	0.036857143	-	-	-	
N_2O	0.05	-	-	-	
Project				-	
CO_2	548.05	101,047,532	101.05	101.0475323	
CH_4	0.04	6,796	0.01	0.1427071	
N_2O	0.05	9,219	0.01	2.8578296	
Net				**104.0480690**	
CO_2	548.05	101,047,532	101	101.0475323	
CH_4	0.04	6,796	0	0.1427071	
N_2O	0.05	9,219	0	2.8578296	
				104.0	**Total Annual CO2E**

[c] Averaged EMFAC2007 fleet values for 0-65mph
[d] Emission factors for CH_4 and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version3.1, January 2009.

EMFAC2007 Summary

CO2	
Speed	**Grams/Mile**
0	341.823
5	1199.387
10	913.689
15	722.176
20	592.927
25	508.8
30	452.079
35	415.42
40	394.465
45	386.902
50	391.989
55	410.409
60	444.405
65	498.245
AVG	**548.0511429**

CH4	
Speed	**Grams/Mile**
0	0.039
5	0.088
10	0.065
15	0.05
20	0.04
25	0.033
30	0.029
35	0.026
40	0.024
45	0.023
50	0.023
55	0.023
60	0.025
65	0.028
AVG	**0.036857143**

Pollutant Name: Carbon Dioxide Temperature: 60F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	941.697	5140.81	0	0	341.823
5	952.132	1182.76	1712.78	2870.59	2748.56	242.056	1199.387
10	719.611	894.25	1264.503	2392.58	2543.5	204.646	913.689
15	564.5	701.79	975.625	2023.01	2422.4	176.886	722.176
20	459.611	571.646	785.559	1763.67	2348.67	156.274	592.927
25	388.394	483.279	659.251	1662.8	2302.85	141.125	508.8
30	340.644	424.032	575.973	1583.89	2274.3	130.317	452.079
35	310.077	386.104	523.371	1523.34	2257.12	123.131	415.42
40	292.934	364.834	494.255	1479.18	2248.08	119.164	394.465
45	287.21	357.731	484.87	1450.45	2245.58	118.287	386.902
50	292.25	363.985	494.056	1436.88	2249.21	120.646	391.989
55	308.63	384.309	522.993	1438.86	2259.57	126.72	410.409
60	338.263	421.077	575.47	1457.5	2278.51	137.426	444.405
65	384.777	478.792	658.754	1495.01	2309.66	154.339	498.245

Pollutant Name: Methane Temperature: 60F Relative Humidity: 50%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.162	0.424	0	0	0.039
5	0.065	0.08	0.1	0.355	0.175	0.313	0.088
10	0.05	0.062	0.079	0.207	0.123	0.267	0.065
15	0.041	0.05	0.063	0.111	0.091	0.237	0.05
20	0.032	0.041	0.052	0.067	0.07	0.218	0.04
25	0.027	0.034	0.044	0.055	0.056	0.206	0.033
30	0.023	0.03	0.039	0.045	0.046	0.2	0.029
35	0.021	0.027	0.035	0.039	0.04	0.199	0.026
40	0.019	0.025	0.032	0.034	0.036	0.202	0.024
45	0.018	0.024	0.031	0.032	0.033	0.21	0.023
50	0.018	0.023	0.03	0.032	0.031	0.224	0.023
55	0.019	0.024	0.031	0.033	0.031	0.246	0.023
60	0.02	0.026	0.033	0.037	0.031	0.28	0.025
65	0.022	0.028	0.036	0.043	0.033	0.333	0.028

Electricity

Land Use	1,000 Sqft	Usage Rate [a] (kWh/sq.ft/yr)	(KWh/year)	MWh/year
Project				
Residential (DU)	2.0	4,642	9,284	9
Total Project			**9,284**	**9**
Net Project Electricity Usage			**9,284**	**9**

Project				0.00
CO_2	724.120	6722.531	3.049	3.049
CH_4	0.030	0.280	0.000	0.003
N_2O	0.008	0.075	0.000	0.011
Net				3.06
CO_2	724.120	6722.531	3.049	3.049
CH_4	0.0302	0.28	0.00	0.00
N_2O	0.0081	0.08	0.00	0.01
				3 **Total Annual CO2e**

[a] Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.

[b] Electricity Usage Rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005

[c] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008

Water and Wastewater Generation Factors

Land Use	Amount	Units	Water			Wastewater		
			AF/Year/Unit	MG/Year/Unit	MG/Year	GPD/Unit	MG/Year/Unit	MG/Year
Project								
Residential (DU)	2.0	DU	0.72	0.235	0.5	208	0.076	0.2
Total Project					**0.5**			**0.2**
Net Project					**0.5**			**0.2**

1 acre foot = 325851.433266421 gallon [US, liquid]

Water Conveyance (Water and Wastewater)

	MGD	Usage Rate kWh/MG	(KWh/year)	MWh/year
Water Supply, Conveyance, Treatment, and Distribution	0.00	11,111	**5,214**	**5**
Wastewater Treatment	0.00	1,911	**290**	**0**
Net Project Water Power Usage		13,022	**5,504**	**6**

Project				0.00
CO_2	724.12	3,985.37	1.81	1.81
CH_4	0.0302	0.17	0.00	0.00
N_2O	0.0081	0.04	0.00	0.01
Net				1.82
CO_2	724.12	3,985	2	2
CH_4	0.0302	0	0.00	0.00
N_2O	0.0081	0	0.00	0
				2

Natural Gas

Land Use	1,000 Sqft	Usage Rate[a] (cu.ft\sq.ft\mo)	Total Natural Gas Usage (cu.ft\mo)	Total Natural Gas Usage (cu.ft\year)	Total Natural Gas Usage (MMBTU\year)
Project					
Residential (DU)	2.0	3,309	6,619	79,428	81
Total Project			**6,619**	**79,428**	**81**
Net Project			**6,619**	**79,428**	**81**

[a] Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.

GHG	Kg/MMBtu[b]	Kg	metric tons	CO_2E (Metric Tons)
Existing				
CO_2	53.06	-	-	-
CH_4	0.0059	-	-	-
N_2O	0.0001	-	-	-
Project				**0.00**
CO_2	53.06	4,298.72	1.95	1.95
CH_4	0.0059	0.48	0.00	0.00
N_2O	0.0001	0.01	0.00	0.00
Net				**1.96**
CO_2	53.06	4,298.72	1.95	1.95
CH_4	0.0059	0.48	0.00	0.00
N_2O	0.0001	0.01	0.00	0.00

1.96 Total Annual CO2E

[b] Emission factors for CO_2, CH_4, and N_2O were derived from the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.

Fire Station 150
Greenhouse Gas Analysis

Worst-Case Scenario

Back-Up Diesel Generator

Kw	Hours	Hp
200	8	268.2044216

*1 kilowatt hour = 1.341022108 horsepower hours

Pollutant	Emission Factor (lbs/hp-hr)	Emissions (lbs/Hr)	Emissions (tons/year)
CO2	1.15	308.4350848	27.98075543

Source:

http://www.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf

Worst Case is based on 8-hr usage with the generator working at 70% of capacity (AP42 Gasoline and Diesel Industrial Engine Source Emission Factors)

Assumption: Generator will operate a maximum of 200 hours per year

Fire Station 150
Greenhouse Gas Analysis

Operational On-Road Fire Station Equipment Emissions

Permanent Fire Station Apparatus

Scenario Year: 2010 -- Model Years: 1965 to 2010	
HHDT-DSL (grams/mile)	
CO_2	2386.56
CH_4	0.158857

Scenario Year: 2010 -- Model Years: 1965 to 2010	
HHDT-DSL (grams/idling hour)	
CO_2	2386.56
CH_4	0.158857

Worst-Case Day				
Classification	**# Round Trips**	**Miles/Trip**	**Miles/Day**	**Hours Idling**
HHDV	8	10	80	2

Pollutant	**Emissions**		
	grams/day	**tons/year**	**tons/year CO_2e**
CO_2	195,698	71.43	71.43
CH_4	13.026	0.00	0.10
		total	71.53

Assumptions:
4 estimated emergency responses/day
1 estimated non-emergency responses/day
3 estimated business trips/day
5 miles one-way/trip
2 hours max. idling/day

Fire Station 150
Greenhouse Gas Analysis

EMFAC2007 Summary

Pollutant Name: Methane Temperature: 60F Relative Humidity: 50%

Speed MPH	ALL LDA	LDT	MDT	HDT	UBUS	MCY	ALL	
0	0	0	0	0.556	0	0	0.556	
5	0	0	0	0.593	0	0	0.593	
10	0	0	0	0.336	0	0	0.336	
15	0	0	0	0.168	0	0	0.168	
20	0	0	0	0.093	0	0	0.093	
25	0	0	0	0.076	0	0	0.076	
30	0	0	0	0.062	0	0	0.062	
35	0	0	0	0.051	0	0	0.051	
40	0	0	0	0.045	0	0	0.045	
45	0	0	0	0.042	0	0	0.042	
50	0	0	0	0.042	0	0	0.042	
55	0	0	0	0.045	0	0	0.045	
60	0	0	0	0.052	0	0	0.052	
65	0	0	0	0.063	0	0	0.063	
average							0.158857	grams/mile
								grams/idling hour

Pollutant Name: Carbon Dioxide Temperature: 60F Relative Humidity: 50%

Speed MPH	ALL							
0	0	0	0	6341.961	0	0	6341.961	
5	0	0	0	3789.975	0	0	3789.975	
10	0	0	0	3103.352	0	0	3103.352	
15	0	0	0	2536.887	0	0	2536.887	
20	0	0	0	2128.677	0	0	2128.677	
25	0	0	0	1986.225	0	0	1986.225	
30	0	0	0	1867.83	0	0	1867.83	
35	0	0	0	1772.484	0	0	1772.484	
40	0	0	0	1699.634	0	0	1699.634	
45	0	0	0	1649.01	0	0	1649.01	
50	0	0	0	1620.539	0	0	1620.539	
55	0	0	0	1614.326	0	0	1614.326	
60	0	0	0	1630.686	0	0	1630.686	
65	0	0	0	1670.236	0	0	1670.236	
average							2386.559	grams/mile
								grams/idling hour